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ABSTRACT

This project used interviews, questionnaires, and bibliographic research to investigate the role and attitudes of sponsors, performers, and users of educational research and development. The report is in five chapters. Chapters 1 and 2 present findings on sponsors; chapter 3 reports on performers; chapter 4 describes users; and chapter 5 presents conclusions reached on the basis of the preceding four chapters. The report indicates that educational research and development 1) is sponsored primarily by the Federal government; 2) is sponsored by foundations as part of more general programs rarely identified as specifically educational R & D; 3) is shifting from project to programmatic, and from theoretical to applied; 4) has had less than satisfactory impact on the practices of the users in the eyes of sponsors and performers; and 5) has not achieved significant popularity and acceptance in the opinion of those for whom the work is intended, the users. The last half of the report consists of appendixes containing materials used in the study--questionnaires and interview schedules--and data tables. (RT)

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Some Aspects of Educational Research and Development in the United States -- Report for the OECD Review

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U.S. Department of
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SOME ASPECTS OF EDUCATIONAL RESEARCH AND DEVELOPMENT IN THE UNITED STATES -- REPORT FOR THE OECD REVIEW

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INTRODUCTION

The Syracuse University Research Corporation has prepared this report for the information and use of the U.S. Office of Education in their preparation of a broad study of Educational Research and Development in the United States. The USOE study was undertaken at the request of the Organization for Economic Cooperation and Development (OECD).[1]

Very briefly, SURC's task was to explore four questions:

- Who are the sponsors, and where are the centers of major educational R&D in the United States?
- What are the organizational arrangements and the management strategies and procedures for allocating resources to and within educational R&D?
- What is the recent and present impact of educational R&D on educational practice?
- What are the current attitudes of educators and policymakers towards educational R&D?

The investigation was conducted principally through structured interviews and questionnaires, unstructured interviews, and review of the literature (including formal reports from relevant organizations). Three functionally distinct participant groups in the R&D process were identified as being appropriate subjects of study: the sponsors of educational R&D projects and programs, the performers of educational R&D, and the users of the performers' output. (Although these three groupings are functionally distinct, it often happens that two or more of the participant functions are performed within the same organization; however, this fact has little bearing on the conduct or the results of the investigation).

With the participating groups being so identified, it becomes apparent that the first two questions to be explored -- as set forth above -- have to do with the sponsors and the performers (centers) of educational R&D. The users are involved only passively -- insofar as sponsors and performers react to wants or needs as expressed by the users. However, all three groups, and especially the users, are important to any investigation of the third and fourth questions, which have to do with the impact of educational R&D and attitudes toward it. The users are, after all, the ultimate determiners of impact: if the results of educational R&D are not used, then there will obviously be no impact on educational practice. However, the sponsors and performers influence the actions of the users by their response to the (passive) feedback role of the users. It is a fair, although perhaps over-simplified, assumption that impact is more significant when sponsors and performers pay attention to felt needs of users, and/or when they concern themselves with the delivery-- one might even say the promotion -- of research results.

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[1] The OECD is the successor to the Organization for European Economic Cooperation, which had its inception in 1948 as the major policymaking and research body for the Marshall Plan. It is based in Paris.

Thus, the inquiry falls into two sets of questions, rather than into four separate ones. This report is organized around the questions of performance and of use and the methodology was similarly organized. The term "performance", as used here, includes "sponsorship".

1. Sponsors

   The two major sponsoring groups of educational R&D are Federal agencies and private foundations. It was agreed with the USOE that, so far as sponsors are concerned, the research would be concentrated on these two groups. The purpose was principally to elicit the facts necessary to describe their management strategies, chief among these being criteria for allocating funds among the many alternative research possibilities, and the degree of their concern with dissemination and classroom implementation of research results. The most important research tool was an individually structured interview with officials of the sponsor agencies, supplemented by official and semi-official reports, Congressional documents, and other relevant published material. Numerous interviews were also had, with knowledgable people other than agency officials. During the course of these interviews valuable insight was gained into sponsor strategies and operations from the point-of-view of outside observers.[1]

   Officials of six Federal sponsoring agencies were interviewed. Among them were two Bureaus of the USOE -- the Bureau of Research (which administers roughly three-fourths of the educational R&D funds provided by the Federal Government), and the Bureau of Education for the Handicapped. The four other Federal agencies were the National Science Foundation, the Office of Economic Opportunity, the National Institute of Mental Health, and the National Institute of Child Health and Human Development.

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[1] Appendix A contains a list of the people interviewed in both sponsor and performer categories.

These interviews, along with others in Washington, D.C., were conducted by the Project Director.

Personal interviews, under the direction of a single member of the staff, were held with officials of six major Foundations believed to be active in sponsoring educational R&D. Another six Foundations were queried by mail. All 12 responded fully.

2. Performers

Among the performers of educational R&D, attention was directed to the Universities, to the R&D Centers and Regional Educational Laboratories sponsored by the USOE's Bureau of Research, and to several of the State Departments of Education (or their equivalent). The technique was a uniformly structured interview,[1] again supplemented by reports and other documents. All interviews were high-level -- typically with University Deans, with Directors or Associate Directors of R&D Centers and Labs, and with directors of research activities in the State Departments of Education.

As was the case with the sponsor groups, the selection of institutions and organizations whose personnel would be interviewed was made in consultation with USOE. Altogether, 47 institutions or organizations were included in this group: 16 Universities, 13 R&D Centers,[2] nine Regional Labs, and nine State Departments of Education. Some of the interviews were multiple; hence, there were 60 individual respondents in this group.

In contrast with the sponsor groups, where there was a geographic concentration of interview respondents so that a single staff member could conduct all interviews, the persons to be interviewed in the performer category were scattered throughout the country. It was necessary, therefore, to recruit a number of interviewers -- 14 in all -- who were reasonable close to the interview sites. This procedure had the built-in potential disadvantage of producing interview results of varying quality, and/or with emphasis on different aspects of the questions which were being explored. However, the interviewers were given identical, specific, and detailed instructions, and most of the respondents cooperated fully. Thus, although some non-uniformity was inevitable, the interview results, on the whole, turned out to be significantly informative.

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[1] The questionnaire schedule is in Appendix A.

[2] For convenience, five institutions which are not strictly R&D Centers are included in this classification: the two Educational Policy Research Centers, the National Laboratory on Early Childhood, and the two Vocational Education Centers.

3. Users

The purpose of surveying potential users of educational R&D output was, of course, to gather information relating to the impact of R&D efforts on educational policies and practices at the point of ultimate potential delivery -- the classroom. District school superintendents were determined to be the most reliable population as the source of information on a sound sampling basis.

This segment of the overall study was conducted by the Bureau of Social Science Research.[1] The technique was a pre-test in 55 structured interviews, followed by a mail questionnaire which was sent to 574 superintendents of districts with enrollments of 600--100,000 students. Both the interview sample and the questionnaire sample were stratified according to six enrollment-size categories and nine geographic regions.[2]

The response rate for the interviews was 100%; no refusals were encountered. The response rate for the questionnaire survey was disappointing. In spite of several follow-up efforts, replies were received from only 60% of the district superintendents who received the mail questionnaires. However, statistical tests indicate that the response rate does not materially affect the reliability of the sample.

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[1] Under contract with SURC. SURC takes full responsibility for the interpretation of the BSSR findings.

[2] A full statement of methodology and a summary of the BSSR findings is in Appendix B.

4. Limitations and Guidelines

The major limitation in this study was time. It is not unusual for individuals conducting or participating in research projects to complain that there was not enough time to do the job as thoroughly as they would like to do it. In this case, however, the time restriction was particularly severe. The project was initiated on October 1, 1968. An initial date of January 10 was set for an interim report on the results of the field investigation of sponsors and performers. This deadline was subsequently extended to February 19, but the respite did not come until after the major part of the field investigation was completed. Consequently, for all practical purposes somewhat less than three and a half months could be devoted to planning the content of the field investigation, constructing interview and questionnaire schedules, recruiting interviewers in widely scattered areas of the nation, arranging interview dates, conducting and writing up the interviews, and a myriad of other details. All of this was done prior to January 10.

A somewhat more generous timetable (but neverthless a highly restrictive one) was considered to be feasible for planning and conducting the field investigation of the district school superintendents.

There were several consequences of the severity of the time limitations:

a. First, interview schedules and questionnaire instruments could not be pre-tested (except, in a minor way, the questionaire which was sent to the district school superintendents), and there was no adequate follow-up on those few interview results which were not fully satisfactory. However, these factors affect the validity of the general conclusions in only a minor way, if at all.

b. The restrictive time element was recognized at the outset, both by SURC and by USOE. Accordingly, it was agreed that the investigation of each of the functional groups of R&D participants -- the sponsors, the performers, and the users -- would be limited to selected elements in each group. This factor does, in some cases, affect the general application of some conclusions. For example, the conclusions about the R&D Centers and the Regional Labs sponsored by the USOE Bureau of Research can not be generalized to cover other similar organizations sponsored by other Federal Government agencies simply because the other similar organizations were not covered by the investigation. The text attempts to clearify limits of generalizability, as a result.

c. A more regrettable consequence is due not only to the stringency of the time limit, but also to the USOE's own deadline of July 1, 1969 for submission of its report to OECD. In order for the material to be useful to the USOE in the preparation of that report, it had to be in the hands of the USOE drafters in early June. It was impossible by that time to prepare a complete and final report, such as this one. Instead, material was furnished to USOE as a series of drafts of those portions of the final report which could be completed by early June, and which were considered to be of the greatest relevance to the OECD document. Accordingly, the deadline for the formal and final report was extended to October 15.

Two events of significance to the future of educational R&D occurred subsequent to the early June deadline date of the USOE. The first of these was the announcement by the Commissioner of Education on July 17 of a major reorganization of USOE's management of R&D funds, and a strong policy emphasis on R&D activities which would "get the good, new ideas into practice -- and get them there quickly".

The second was the President's statement, in connection with his proposed drastic revision of the Federal welfare programs, that future Office of Economic Opportunity financing would put more stress on experimental projects than has been the case in the past. The President said: "OEO is to be a laboratory agency, where the new ideas for helping people are tried on a pilot basis. When these are proved successful, they can be 'spun off' to operating agencies or departments..." The experimental, or pilot study, approach to educational R&D has already been used to a limited extent by OEO in connection with Head Start, Parent-Child Centers, and Job Corps projects. This is a technique of educational R&D which has been used sparingly in the R&D community, but opportunities exist for its application in currently operating programs of the USOE, notably the use of Title I and Title III funds. The specific use of these funds and the administration of projects financed by them is now a responsibility of State and local governments, but again, this is a minor complicating factor only.

SUMMARY

This report has been prepared for the Bureau of Research of the U.S. Office of Education as part of its comprehensive study of educational research and development in the United States.

Structured interviews and questionnaires, interviews and bibliographic research were the basic techniques of this investigation directed toward the sponsors, performers and users of educational research and development.

What this report indicates is that educational research and development:

1. Is sponsored primarily by the Federal government, but that in agencies other than the USOE, the results of such research are frequently lost to the general educational system;
2. Is sponsored by foundations as part of more general programs rarely identified as specifically educational R&D;
3. Is shifting from project to programmatic, and from theoretical to applied, and
4. Has had less than satisfactory impact on the practices of the users in the eyes of sponsors and performers, and correlatively;
5. Has not achieved significant popularity and acceptance in the opinion of those for whom the work is intended, the users.

The scope of this investigation does not permit hard and fast conclusions, but it seems clear that the combination of project-oriented research and inadequate two-way communication (of felt needs to the sponsors and performers and results of research to the users) have been the central sources of the dilemma.

The increased emphasis on the programming view and the improvement of communication are both relatively recent, and there is reason to hope that gains will be achieved in significant measure. Yet, because they are so critical to a successful research enterprise, the present level of development is far from adequate. As the report observes, the mandate is there and the will is there; but the knowledge, instrumentalities and funds necessary to develop instrumentalities are not.

Finally, it should be noted that a study of this type simply reveals a set of conditions that existed at the time of the investigation. What is lacking that can only be achieved by continuing study, or at least frequent study, is a sense of the changes and rates of change in sponsor goals, performer methods and user attitudes which are essential to policy formulation.

CHAPTER I

SPONSORS OF EDUCATIONAL R&D -- THE GOVERNMENT AGENCIES

By far the most important sponsoring entities of educational research and development are government agencies. These are principally Federal agencies, but State agencies have a potentially important role, and one which (it is to be hoped) will be increasingly effective.[1]

It is almost impossible to estimate the level of government expenditures on educational R&D. Much depends on what is called "educational R&D" for statistical purposes. However, it is clear that using conventional definitions, the expenditures in recent years have been in excess of $150 million annually, with some estimates going as high as $200 million. Expenditures increased very sharply after the passage of the Elementary and Secondary Education Act of 1965, and apparently have reached a plateau. It is also clear -- as is frequently pointed out in discussions of the magnitude of educational R&D activity -- that, whatever the precise figure of expenditures, it is very low as compared to (a) Government R&D expenditures for many other purposes, and to (b) total expenditures on education. It is questionable whether these comparisons have any real meaning. Much more significant would be to judge the level of educational R&D expenditures against the needs of the educational system for R&D output, and against the capacity of the R&D sponsoring agencies to provide relevant output. For these purposes, a description of the functions and strategies of the sponsoring agencies is more revealing than the level of their expenditures.

GENERAL COMMENTS

Government sponsoring agencies can be divided into several categories that relate to the importance of their R&D sponsorship in the total R&D activity; to the breadth of the intended impact of their R&D sponsorship on the educational system, and to the relationship of their R&D sponsorship to the program of the larger organization (department, office, etc.) to which they are attached.

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[1] In initial investigation, the State agencies were classified as performers of educational R&D, and not as sponsors. In fact, however, they are both. Consequently, their sponsorship role will be discussed, but only briefly, in this chapter.

In rough hierarchical order, the agencies so categorized would be as follows:

1. Agencies whose sole purpose is the improvement of education over a broad spectrum of the educational system. The only example among the Federal government agencies is the Bureau of Research of the Office of Education,[1] which also has, by far, the largest amount of Federal funds at its disposal, and which has the broadest legislative mandate for the support of educational R&D. To the extent that they are sponsors, the State Departments of Education would also fit into this category.

2. Agencies whose purpose is to improve education in specific fields of formal education. The major example here is the National Science Foundation through its curriculum-development programs.

3. Agencies whose purpose is to improve education for specified clientele groups:

   a. In broad furtherance of the program activities of the larger agency of which it is a part. The research sponsorship of the Office of Economic Opportunity would fall within this category, because it is directed primarily towards improving compensatory education for disadvantaged groups.

   b. In direct furtherance of the program activities of the larger agency of which it is a part. The clearest example of this is the Division of Research of the USOE's Bureau of Education for the Handicapped. Another example would be the sponsorship of vocational education research, which comes under the direction of the Bureau of Research, although the program operation lies elsewhere in the USOE. The point here is that the R&D funds are legislatively tied to a very specific program activity.

4. Agencies whose educational R&D sponsorship is incidental to -- or a by-product of -- its sponsorship of research and development in a field which is broader than education *per se*. The two examples here are the National Institute of Child Health and

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[1] Now re-named and reorganized, as was pointed out in the introduction summary.

Human Development and the National Institute of Mental Health. Neither agency sponsors educational R&D as such. Both sponsor projects which have implications for the improvement of education, however.

5. Agencies whose educational R&D sponsorship is primarily for the purpose of meeting their own operating requirements. The examples are various agencies in the Department of Defense, where educational R&D is directed toward improving the quality of manpower for military purposes. However, the techniques of manpower improvement "for military purposes" can (and do) have non-military applications. The DOD sponsorship is intended to meet internal DOD needs. Any external benefits are incidental.

In the following sections of this Chapter the management strategies of the major sponsoring agencies[1] will be discussed in some detail. However, from the above brief categorizations, a major conclusion should be clear. This is that Federal government sponsorship of educational R&D is highly diverse and, to a considerable extent, is governed by the program needs of the sponsoring agencies. Another conclusion, apparent from informal discussions and interviews is that a great deal of knowledge which could lead to the improvement of general education is generated by agencies which have no specific interest in such improvement, and that this knowledge is not systematically made available to the educational community.

USOE -- BUREAU OF RESEARCH

1. General

The Bureau of Research of the U.S. Office of Education, recently moved to the Commissioner's Office and re-named the National Center for Educational R&D, is the only major U.S. Government institution whose sole job it is to administer funds for educational research and development. It also commands by far the largest block of funds for this purpose -- some $70 to $80 million under the Cooperative Research Act, some $11 million under the Vocational Education Act (for the fiscal year 1969), and some $3 million under the Higher Education Act.

In addition to the size of its budget, the Bureau is unique among Government agencies involved in financing educational R&D in the wide latitude it has under its legislative mandate. In contrast to other Government agencies' constraints, which generally require that educational R&D funds must be used for very specific purposes, the Bureau can support almost any research and/or development activity which reasonably can be related to the improvement of education at any level.

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[1] With the exception of the Department of Defense, which was specifically omitted from our terms of reference.

Until FY 1966, the Bureau operated on a very much smaller budget -- approximately $5 million. Then, as a consequence of the authorizing legislation of Title IV of the Elementary and Secondary Education Act of 1965, the budget reached its present magnitude.

2. Management Strategy
These three factors -- the size of the Bureau's budget, the wide latitude it has for action, and its recent and rapid growth -- make it understandable that the Bureau's management strategy has, until recently, evolved from a set of seemingly unrelated decisions, rather than from a pre-planned and programmatic analysis of educational R&D requirements.

Fiscal Year 1966 can be taken as a break-off point between a relatively small program of educational R&D, and a significantly large one for the Bureau. Prior to FY 1966, the Bureau's allocation of funds to research activities and projects had been controlled by its external National Advisory Committee, which was composed of highly respected University researchers from schools of education and departments of psychology. The Bureau staff acted largely as a secretariat for the Committee. Consequently, when the quantum increase in funds put the Bureau in command of educational R&D resources far in excess of any that previously had been available, it was almost inevitable that the strategic decision would be to do more of the same -- but on a grander scale.

Thus, special groups of outside consultants were set up from the same academic community which was overwhelmingly represented on the National Advisory Committee to advise about -- actually to determine -- the shape of the Bureau's strategy. At this time, the staff of the Bureau still served more as a secretariat for the National Advisory Committee (and the consultants) than it did as a creative policy making organization.

From this situation there emerged a decision to expand the system of university-based Research and Development Centers and more widely-based Regional

Educational Laboratories which were envisioned by the Elementary and Secondary Education Act. There is no inference to be drawn here that the decision was wrong or right. This simply is a statement of historical fact: that the initial strategy of the Bureau after FY 1966 was shaped by the decision to build on existing institutional arrangements. Roughly half of the Bureau's funds are now locked into the support of these institutions, whose varied interests and missions are illustrated in Appendix D (which lists the existing centers and laboratories, together with a description of their activities).

There can be no question but that the research and output of these Centers and Laboratories is significant; that they are concerned with important educational problems; that they were selected for funding with due consideration to the relevance of their missions to current or foreseeable problems of education in the United States, and that the scientific and technical competence of their staffs is of high quality. These were the criteria used by two independent groups of academic consultants -- one for the R&D Centers, and one for the Regional Laboratories -- to establish the core of the R&D activities now supported by the Bureau of Research.

The missing criterion was balancing of the missions of the institutions into a coherent whole which would assure that, taken together, the output would be directed towards the most pressing educational problems of today and towards those of the foreseeable future.[1]

Against this background, the Bureau staff for the past two years or so has been developing a management strategy which would incorporate the missing criteria into its operations. In its present form, as approved in early 1969 by its present National Advisory Council, it covers the following elements:

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[1] The failure to include "long-range futures" as a criterion has since been rectified by the staff-inspired creation of two R&D Policy Centers -- one at Stanford, and one at Syracuse.

[2] In contrast to its predecessor, the National Advisory Committee, the Council's membership is more broadly based, and it operates more in an advisory, rather than in a decision-making, capacity.

a. The identification of four basic factors in the American society which affect the direction in which improvements in education should move (and hence the direction of educational R&D) are: (1) rapid structural and technological changes; (2) rapid changes in the demographic structure with respect to rural, urban, and suburban populations; (3) movement from independent to dependent life styles, including a shift from generalized to specialized occupations, and (4) rising demands for full participation in the society, especially from "disadvantaged" groups.

b. The identification of seven priority areas for educational R&D, in light of the four factors cited above are: (1) Equality of educational opportunity (often expressed as equality of educational results); (2) Urban education; (3) Early learning; (4) Vocational, technical, and occupational education; (5) Improving the relevance of general education; (6) Professional and Continuing education, and (7) The finance and organization of education.

c. These priority areas are not listed in order of priority. Indeed, they can not be, not only because there are no objective standards by which to measure their relative importance, but because they obviously overlap: an allocation of funds to any one of them as such would also be an allocation of funds to one or more of the others. Consequently, the Bureau staff has defined five major missions which are conceptually, if not entirely operationally, mutually exclusive, and proposes in its planning for the next five years (i) to allocate funds according to a roughly determined proportionality of funding requirements as among the several missions; while (ii) maintaining a watching brief to make sure that all seven priority areas are being adequately considered, and (iii) making a continuing re-appraisal of developments in priority areas so as to be in a flexible position to restructure the funding patterns.

d. Very briefly described, these five missions are:

   (i) To discover (or invent) educational techniques and methodologies which will substantially improve current educational practice. The Bureau intends to devote half of its resources to this purpose.

In the familiar Research and Development language, this means that the major emphasis will be on Development.

(ii) To promote the discovery of new knowledge about the learning process. One quarter of the Bureau's funds would be allocated to this mission, which involves mainly the Research component of R&D.

(iii and iv) To disseminate knowledge relevant to the improvement of educational practices, and to support institutions designed to do so. The remaining one quarter of the Bureau's funds would be allocated to these two missions, which would include the ERIC system.

(v) To get results of the four previously described missions into the hands of people -- principally school superintendents and teachers -- who can put these results constructively into classroom use. There are no funds allocated to this mission. It must be presumed that the mission will be accomplished through exhortation to other organizations (such as the various State Departments of Education and other U.S. agencies which are more impact minded), through the provisions of more funds by Congress for this specific mission, or through the dilution of funding of the other missions which the Bureau considers to be crucial.

As has been noted, the statement of management strategy as outlined above was approved by the Research Advisory Council in early 1969. It was the latest available statement when the great bulk of the material for this report was gathered, and it reflected a considerable evolution of management strategy (as has also been noted above) from concentration on the support of scientific inquiry -- the discovery of new knowledge -- towards a programmatic approach which emphasizes steps towards delivering research output to the classroom.

However, the statement was approved prior to the recent reorganization of the Bureau of Research, and prior to the new Commissioner's announcement that one purpose of the reorganization will be to "get the good, new ideas into practice -- and to get them there quickly". Consequently, it can be expected that the evolutionary process will be speeded up, and that financing priorities will be changed.

It was apparent from the interviews conducted in the course of the investigation -- and also from much of the literature -- that any change in the direction of showing concrete results of research activity would be more than welcome to the personnel of the Bureau of Research and to the people whom they sponsor. This is amply demonstrated later in Chapter IV and its supporting Appendices. However, it is clear that the effort to "get the good, new ideas into practice" quickly will run into difficulties. Chief among these will be the problem of opening up effective lines of communication between the R&D community and the ultimate users of their output. This, too, is amply demonstrated in Chapter IV. However, a related difficulty will be to overcome the apparent self image of many educational researchers, most of whom are members of the academic community tending to prefer to communicate with their peers rather than with practitioners in the school system. Sections of Chapter III bear out this observation. It does not contradict the impression that many researchers would welcome seeing their findings put into practice. They appear to feel however that this is a job for others.

3. Dissemination

The major dissemination activity of the Bureau of Research is its sponsorship of Educational Resources Information Center (ERIC). This is a massive undertaking through which abstracts, microfilms, microfiches, and/or hard copies of practically all significant reports or other publications relating to educational study are made available to the public. Nineteen ERIC Clearing Houses (mostly University based) located throughout the country retrieve, abstract, and otherwise prepare material for Central ERIC processing. All items are indexed and cross indexed, and the indices are brought up to date periodically through an ERIC publication, Research in Education. Thus, anyone interested in a particular aspect of education has ready access to a current listing of most of the relevant literature, and the means to acquire copies.

All research reports made under the sponsorship of the Office of Education must (unless exception is granted) be prepared for inclusion in the ERIC system. (This is the only requirement with respect to publication which is made of grantees by the Bureau of Research.)

With one exception, no other dissemination activities are sponsored by the Bureau of Research. The exception is that some of the Regional Educational Laboratories engage in dissemination activities with Bureau of Research funding. Of course, grantees of the Bureau can, and do, disseminate their research results on their own, usually through conferences, journal articles, or other publications.

THE NATIONAL SCIENCE FOUNDATION

1. General

The National Science Foundation has a very broad legislative mandate to support scientific research, scientific education, and the dissemination and application of scientific knowledge. Without question the Foundation owes its existence and its sizeable budget (approximately $500 million annually) to the revolutionary scientific developments of the past three decades, to the rapid and continuous changes in technology accompanying these developments, and to the recognition that positive Federal support is necessary to maintain American scientific excellence. Most of the Foundation's funds are devoted to the support of basic scientific research and facilities, and for institutional support related to scientific research. Only about one-fourth of the funds are classified as being in support of scientific education. These are used principally for the finance of advanced study institutes for scholars and teachers of science, for individual fellowships and traineeships, and for improvement of teaching facilities.

It would be very difficult, if not impossible, to determine the extent to which NSF-financed research has a potential affect on educational practices, and hence could somehow be classified as educational R&D, at least in retrospect. Obviously, the discovery of new knowledge and the adaptation or invention of novel technologies will have (as they have had) profound consequences for both educational goals and practices. However, only a relatively small NSF program is regularly classified as educational R&D. This is the program of science course-content improvement.

The science course-content improvement program (CCIP)[1] was inaugurated when Foundation officials recognized that both the subject matter and the teaching methods in science courses in most American schools had become obsolete as a result of same factors which were responsible for the existence of the Foundation itself -- the rapid and continuous advances in science and technology. Substantial changes were thought to be desirable in teaching materials and teaching practices, and these changes should entail not only updating in order to take account of new "facts", but also emphasize improvement of learning capacity so that the student would be able to absorb the additional "facts" that were being uncovered so rapidly.

Funding (obligations) for CCIP since 1959 have been as follows:

Fiscal Year	Net Obligations (000)
1959	$ 6,030
1960	6,299
1961	6,411
1962	8,990
1963	12,632
1964	13,976
1965	14,552
1966	15,564
1967	18,355
1968	19,352
1969	13,300 (est.)

2. Management Strategy
The CCIP first started at the high school and junior high school level. It since has been expanded to include undergraduate teaching, and very recently to the elementary grades.

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[1] The curricula included are in the mathematical, physical, biological, medical, social and engineering sciences. Interdisciplinary projects have also been approved, most notably to the American Association for the Advancement of Science for the production of an elementary school science program (Science -- A Process Approach, Grades K-6) which is now being used by an estimated 1.6 million school children.

A major management principal has been to give support to a number of CCIP projects in the same field, rather than trying to develop a single approved method of teaching each subject. However, before they are approved, all projects must undergo rigorous screening by outside panelists and committees to make sure that they hold out promise for course-content improvement generally in line with expert opinion as to the desirable direction of pedagogical change. The participation of highly qualified personnel, both in the field of education and in the relevant scientific field, is required.

A second principle is to aim for the development of new methods and materials which can be used (or easily adapted for use) in schools of diverse characteristics. In this connection, emphasis is given to the ease of adapting methods and materials so as to avoid stereotyped "packages".

After a project has been approved, the Foundation tends to give the project personnel a relatively free hand. The principle here is very much like that of most private foundations (see Chapter II): once qualified people have been authorized to go ahead on an approved project, there should be a minimum of monitoring by the sponsor on the grounds that the project personnel are, almost by definition, the ones best qualified to manage their research. Another reason is that the Foundation wants to avoid the appearance of a Government stamp-of-approval on the finished product, which might be the case if work in progress were too closely supervised.

3. Dissemination

Of all the Federal agencies sponsoring educational R&D, the Foundation is the most insistent that project proposals contain adequate provision for dissemination of results. Researchers are encouraged to submit frequent progress reports designed for distribution to others in their field. Foundation funds may be used for this purpose, but actual dissemination is the responsibility of the grantee. With respect to finished materials (texts, manuals, equipment, etc.), the project proposal must detail the intended procedures for copyright, publication, distribution, etc. At this ultimate point, the Foundation will not provide funds to promote use or adoption, but it will insist that the grantee's procedures facilitate public access to the output.

The provision in project applications that plans must be detailed through to the stage of ultimate delivery to the intended target audience -- which is usually students -- demonstrates the Foundation's interest in putting its sponsored-research output to work as soon as possible after the results are judged to be professionally acceptable.

THE OFFICE OF ECONOMIC OPPORTUNITY

1. General

Like the Bureau of Research, the Office of Economic Opportunity is being reorganized. However, in contrast to the probable outcome of the reorganization of the Bureau of Research, it does not appear likely that the major thrust of the educational R&D effort of the OEO will change directions, nor does it appear that there will be any qualitative change in the relationship of R&D to the operational programs of the agency.

Educational R&D sponsored by OEO is aimed squarely at the objective of improving those operational programs of the War on Poverty that have to do with education: Head Start, Follow Through, and the compensatory educational components of the Community Action Programs. On the whole, these programs are outside the conventional formal school system -- hence the word "compensatory" to describe them. However, the results of the research obviously have a bearing on the operations of the formal system, which is more and more becoming concerned with the educational problems of the same disadvantaged groups that are the "clients" of OEO's educational programs. More important for the purposes of this report is the extensive use made by OEO of demonstration and experimentation as a research technique, with a view towards rapid replication of successful experiments.

Funds allocated to educational R&D in fiscal year 1969 amounted to $14.3 million.

2. Management Strategy

The two most important characteristics of the OEO management strategy are (a) that sponsored research is operationally oriented, and (b) that heavy reliance is placed on the demonstration and experimentation technique.

a. Operational Orientation

Operational orientation of educational R&D is assured by the structure of the OEO organization and its budget allotments. The Division of Research, Plans, Programs, and Evaluation (RPP&E) nominally has responsibility for all research activities. However, the funds controlled exclusively by RPP&E are fairly small ($2.5 to $3.0 million annually), and are used only for demographic surveys, not for educational R&D. The educational R&D funds are allocated directly to the operating programs[1] and can, therefore, be used only for projects which are considered to be useful by the administrators of the program concerned.

RPP&E's formal responsibility is to see to it that funded projects are well designed and will be competently executed. In fact, however, there is close cooperation between RPP&E and the program administrators in the development of research projects. Thus, furtherance of program objectives becomes the chief criterion in the allocation of R&D funds.

b. Demonstration and Experimentation

In a general sense, there is nothing novel in the use of demonstration and experimentation as a research technique. However, the OEO system goes beyond most demonstration and experimentation in three very important ways: (1) the experimental situations are deliberately designed with a view to discovering alternative means of dealing with compensatory education problems under diverse sets of circumstances; (2) several different experimental models are tested simultaneously, with the elements of all of them combined covering as many discrete variables as possible, and (3) a major criterion is the potential of widespread replicability either of the experimental situation itself, or in the form of a composite of elements drawn from various experiments.

In essence, this involves the establishment of numerous "laboratories", but laboratories from which there can emerge a number of solutions to variations of the same problem. It would appear to be a reasonable technique wherever new or unique situations exist which may have replication value.

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[1] In fiscal 1969: Head Start, $6.0 million; Follow Through, $4.3 million; Community Action Programs, $4.0 million.

BUREAU OF EDUCATION FOR THE HANDICAPPED

1. General

The Bureau of Education for the Handicapped was inaugurated in January 1967, as required by Public Law 89-750, which mandated a separate Bureau in USOE to deal with the problems of educating handicapped children.[1] The Bureau inherited functions that had previously been performed by other organizational units in USOE (including the Bureau of Research), but with a broader mandate and a larger budget.

The mission of the Bureau, in brief, is to provide the best possible educational programs for handicapped children by facilitating delivery of educational instruments to the site of instruction. Thus it is implementation-oriented, an orientation which necessarily influences the strategy of its educational R&D activities.

The Bureau's ultimate target group is some 5 million children (roughly 10% of the nation's children) who are considered to be "mentally retarded, hard of hearing, deaf, speech-impaired, visually handicapped, seriously emotionally disturbed, crippled, or other health-impaired children who by reason thereof require special education" (the language is part of the basic legislation). Of these 5 million, at least 50% are considered to be mentally retarded, or suffering from speech defects.

Inasmuch as several other Federal agencies also are concerned with problems of the handicapped, the question of overlapping or competition in effort naturally arises. In this case, the question can be quickly disposed of: the Bureau takes the handicapped condition as given data, and aims its programs towards educational practices which will help to cope with the handicaps. The other agencies (principally those associated with the National Institutes of Health) are primarily concerned with learning the causes of handicapping conditions so as to reduce their incidence (e.g., studies of pre-natal and early childhood nutrition as related to mental deficiency in later life), or with discovering better therapeutic means of alleviating the consequences of handicapping conditions (e.g., hearing devices, prosthetics, etc.). The line between these two major concerns is sometimes blurred, but good interagency communications tend to keep the line as sharp as could reasonably be expected.[1]

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[1] Only one program of the Bureau has relevance to education for handicapped adults. This is the Captioned Film Program, under which instructional and other films produced with only a sound track are captioned so that they will be available to the deaf.

2. R&D Resources

In the current fiscal year, the Bureau has $15 million appropriated for support to educational R&D. This is a spectacular increase over the funds available in earlier years. In 1964 funds were specifically allocated to educational R&D for handicapped children for the first time.[2]

Funding since then has increased as follows:

FY 1964	$ 1,000,000
FY 1965	2,000,000
FY 1966	6,000,000
FY 1967	8,000,000
FY 1968	11,000,000
FY 1969	15,000,000

Bureau officials say that although they were hard pressed to spend $1 million usefully in 1964 on educational R&D, they now find that $15 million is inadequate. The Bureau's National Advisory Committee agrees. However, without judgment about the adequacy of funds, it is useful to relate the magnitude to some other indicators: $80-90 million to the USOE Bureau of Research, which is concerned with all levels

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[1] In its latest annual report, the Bureau's National Advisory Committee made special note of its pleasure "that the Bureau has adopted a policy to integrate and correlate its planning with other agencies...." The interviews conducted in the preparation of this report indicate that there is in fact a high degree of informal, as well as formal, integration of effort with respect to R&D activities.

[2] This was prior to the establishment of the Bureau. The relevant R&D activity was then in the USOE Bureau of Research, and was funded under the Cooperative Research Act.

and aspects of education; roughly $17 million allocated for educational R&D by the Office of Economic Opportunity, which has the ultimate objective of eradicating poverty; approximately $13 million to the National Science Foundation in FY 1969 for cirriculum development, and perhaps the same magnitude as the expenditures by all of the major private Foundations on educational R&D. The comparisons are not intended to be invidious. They may well indicate a shortage of total funds for educational R&D, rather than an imbalance in favor of the 10% of the children who are classified as handicapped. The figures also show how the overall strategy of Federally supported educational R&D is strongly influenced by the Congressional attitude towards particular problems. Thus, much of the educational R&D strategy emerges as a summation of individually considered segments, rather than as as assignment of priorities within a well-defined educational R&D set of goals.

3. Management Strategy Procedures

As has been indicated above, the Bureau is implementation-oriented. According to the guidelines issued by the Bureau to applicants for research support, the Bureau "is generally seeking solutions to pressing educational problems as they relate to handicapped children. It is important for applicants to identify the particular problem for which they are seeking solutions. While individual research efforts do not often result in solutions to major problems, they may bring such solutions closer. It is important that applicants indicate how the attainment of goals of a particular project will be an important step leading to the solution of the indicated educational problem".

There is very little room here for "basic" or "conclusion-oriented" research. Instead, the Bureau wants to support R&D activities which promise definable, early, and practical results. For this reason, the Division of Research (which administers the Bureau's research funds) is an operating arm of the Bureau. Its research support is aimed at delivering to the other divisions of the Bureau proved and operational educational techniques that can be put into practice.

Research grants are awarded to states, state or local educational agencies, public or non-profit private institutions of higher learning, and other private or non-profit agencies for "research, research training, surveys, or demonstrations in the field of education of handicapped children...." (The quotation from the basic legislation.) There is no restriction on the types of activities which may be supported, so long as they are related to education of handicapped children.

Prior to the award of grants there is a required review of proposals by an expert panel of people who are not full-time Fereral employees. This review is limited to consideration of the scientific excellence of the proposal, and to the capacity of the proposer (or his institution) to carry out the proposed research successfully. Unlike the case with some other Federal agencies (notably the National Institutes of Health), the Bureau is not required to turn down proposals if they are disapproved by the panel; however, in practice it does. Proposals may be generated in-house, or may be unsolicited. In any case, the total prospective funding for project proposals approved by the panels always exceeds the budgeted funds. Consequently, in the process of fitting the budget to the possibilities represented by the approved projects, the Bureau staff is in a position to shape the research program.

The Bureau's National Advisory Council is created by statute; it has only advisory powers under the law. In practice, the Advisory Council is a vigorous proponent of the Bureau's objectives. The emphasis of its actions and reports has been to support the Bureau, rather than to guide it -- which is another way of saying that the Council has been satisfied with the Bureau's operations, but believes that the level of its financial resources is inadequate, and that the absence of assured funding from year to year is inhibiting. Thus, the Advisory Council, as an advocate rather than a watchdog, strengthens the control of the Bureau staff over its program.

The orientation towards implementation -- towards delivering services to the ultimate target group of handicapped children -- means that the research activities supported by the Bureau (through its Division of Research) approach more closely than those of any other Federal agency in this field to the activities of the Agricultural Extension Service. As has been pointed out elsewhere in this report, many people concerned with educational R&D believe that more emphasis should be placed on implementation. The Bureau's management strategy would be a prototype for them. Basic to the management strategy is the support, with a sizeable proportion of its budget, of 14 instructional materials centers throughout the nation serving teachers in the field of special education, several regional demonstration centers, and a number of demonstration projects.

NATIONAL INSTITUTE OF CHILD HEALTH AND HUMAN DEVELOPMENT (NICHD)[1]

1. General

This is the youngest Institute in the National Institutes of Health (NIH) complex. It was established in 1963.

Its rather breathtaking mission, as described in one of its publications, is "to help individuals achieve a normal healthy life from conception to death. Through the conduct and support of research and training in the biological, medical, behavioral, and social sciences, this Institute fosters efforts for acquiring new knowledge and deeper insight into the health problems and requirements of mothers and children, and into the processes of human life and the development of all individuals throughout their life span".

The Institute has an annual budget in the neighborhood of $50 million to accomplish this mission. Except for a relatively small amount needed to cover administrative costs and to support a few in-house research projects, the funds are used to support outside research and training projects and programs in five categorical fields: Reproduction and Population Research; Pre-natal Biology and Infant Mortality; Growth and Development; Adult Development and Aging; and Mental Retardation.

Obviously, none of these categorical fields is exclusively directed towards research and development activities pertaining to education. On the other hand, some activities in each of them can be identified as relevant to education. At the request of the President's Science Advisory Committee, the Institute made an analysis of its funded projects, and concluded that projects funded for approximately $10 million -- or one-fifth of its budget -- would fall into this rubric.

There can be no question about the Institute's interest in directing a substantial fraction of its resources to educational research and development, nor about its concept of "educational" as embracing the individual's entire environment and being relevant to his entire life span. The following quotations, taken (not out of context) from the Institute's presentation to the President's Science Advisory Committee, illustrate this:

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[1] The resource management of the National Institute of Mental Health is almost identical to that described for the NICHD.

"...(The) basic mission is to foster, conduct, and support research and training in the processes of human development -- which includes the learning process. ...The ultimate aim of the research is to promote a nation of individuals who will be able to achieve and maintain the optimum in physical, intellectual, and social health throughout continually productive lives."

"The NICHD is not primarily involved in the traditional kind of educational research per se. Rather, the Institute is concerned with unravelling those basic bio-genetic and environmental processes by which individuals not only successfully adapt to societal demands, but also achieve the higher forms of cognitive learning and abstract reasoning."

"The NICHD is concerned with learning across the total life span -- whether the learning takes place in the crib, in the home, in educational institutions or in a factory. Much of the traditional educational research has concentrated on the school age years -- from 5 to 18. Our concern extends backward and forward in time -- from the newborn through to the aged."

2. Program Planning

It would be misleading to suggest that NICHD has a "program" of support for educational research and development in the sense that the term program is normally used. There are several reasons for this, the first being the fact, as stated above, that educational research and development is not one of the Institute's five categorical fields of interest. Thus (as is the case with most of the private foundations) support for educational R&D is a by-product of support for other interests. The second reason is that, in keeping with the research support policies of all of the National Institutes of Health, and in contrast to the policies of other Government agencies, support is given over a very wide range of possible projects, with the chief criteria (other than availability of funds) being scientific excellence and relevance to the Institute's extremely broad mission.

The third reason is the most compelling. This is the method used by NICHD (and the other Institutes) in selecting those project proposals which it will support. The method involves three steps:

a. There is an initial review by a relevant committee of scientists to determine the investigator's competence in the proposed research area, the adequacy of available research facilities, the relationship of the budgetary estimates to the proposed research, and the overall significance of the project relative to research needs.

   Many such committees exist, each dealing with a particular scientific specialty. Each committee may also act in a similar review capacity for other Institutes.

b. There is then a final review of the recommendations of the study committee by the National Advisory Child Health and Human Development Council (NACHD) to determine its relevance to the Institute's policies, program needs, availability of funds, and scientific merit. No research grants are made without the approval of the Council.

   NACHD is composed of outside scientists and several lay people. The Council meets three times a year. One of its principle jobs is to match the review committee's recommendations with the availability of funds. (In FY 1968, the Institue's budget was sufficient to fund only a little more than half of the projects approved by the review committees.)

c. The review committees will have rated their project proposals on scale that is uniform for all committees, according to desirability. These ratings -- perhaps from a dozen or more committees acting independently -- are then put through a mechanical process in the NIH Division of Research Grants, by which the approved project proposals are ranked according to the review committee ratings, and a "Pay Line" is established when the cost of the higher-ranked project proposals exhaust the available funds.

   It is what the NACHD does in the way of manipulating ratings around the Pay Line, and the extent to which the NACHD staff can influence the Council's decisions, which determines the research "program" for NICHD.

This procedure is common to all Institutes in the NIH complex. It has met with some criticism (with respect to HIH in general, but not necessarily with respect specifically to NICHD) chiefly on the grounds that the conglomerate of the ratings by several committees makes the ranking of the project proposals suspect. For example, a "hard" committee might tend to give consistently low ratings, while a "soft" committee might tend to give consistently high ones, with the result that the "hard" committee's good project proposals will be ranked below the "soft" committee's mediocre ones. There is also a fear that some of the NIH Councils (again, not necessarily the NICHD) are less meticulous than they could be in manipulating rankings around the "Pay Line" so as to produce a more coherent, relevant, and balanced research effort.

This is not the place to evaluate these criticisms. However, it is relevant to note that the system makes it extremely difficult for NICHD to focus on a few selected problem areas within its broad domain. This is especially true because all of the project proposals that go through this process are unsolicited, and the funded unsolicited account for 90% of the budget for activities which have been identified as being relevant to education. The other 10% is spent on staff-generated "contracts" and on in-house research.

3. Development and Dissemination
The main target group for NICHD is other scientists. There are no grants made for development activity. However, there is fairly wide dissemination of research results through conferences and publications.

4. The Future
The above paragraphs are descriptive of R&D management strategy and procedure at present. There are indications that a move away from them -- at least slightly away -- will be made. Specifically, arrangements have been made for the establishment of several university-based research centers. One group of centers will deal with mental retardation. These centers have been funded but are not operational. Just what relevance they will have to educational research and development remains to be seen. However, the fairly large funding involved suggests a move in the direction of greater programmatic activity.

THE STATE DEPARTMENTS OF EDUCATION

On this subject, SUCCB Interim Report (February, 1969) stated:

> "The sampling of State Departments of Education was very small (9), but it showed a startling variation not only in the amount of resources devoted to R&D, but also in the conception of what educational R&D is all about. In view of the fact that the States now control nearly all of the Title I and Title III projects, and will soon control all of them, the State Boards of Education are potentially a very important focus for research based on the evaluation of projects in being, and for the planning and installation of projects designed specifically as "laboratory" subjects. This is not being done by most of the State Boards whose personnel were interviewed. It would seem that a great potential for fruitful research is being ignored. However, at this point in the study *no conclusion except that more should* be known about the research activities of the State Departments can be reached."

There is a little that can be added to this. There is not much additional information that would permit further generalizing. Furthermore, subsequent to the submission of the interim report, the Office of Education has solicited proposals for an extensive study of the R&D activities in the States -- a study which is long overdue; the latest one was made in 1964, and dealt with conditions which predated the upgrading of educational research in 1965. If such a study is now under way, it would be presumptious to anticipate its results with the small amount of information gleamed by a SURC team in a relatively superficial survey of only nine State Departments of Education, plus the bits of information that were gathered from other interviews and from the literature.

Nevertheless, one conclusion is apparent. This is that under Titles I and III of the ESEA the States are conducting classroom programs at least some of which should be susceptible of evaluation by USOE in terms of full or modified replicability to other schools with similar problems. By "evaluation" here the term is not used in its usual sense -- as a post-audit of a program's progress in relation to what was originally expected. What is meant, rather, is an evaluation of what has actually happened in programs, with a view to adapting the best features of similarly oriented programs to school problems which exist elsewhere.

To put it more succinctly, there is in the Title I and Title III projects an opportunity to learn from experience. This would be the kind of research which, as has been pointed out above, as being sponsored by the Office of Economic Opportunity, and which could result in spinoffs which would help to get new ideas into practice.

Such an opportunity should not be missed. It appears clear from very limited contacts with State Departments of Education that not all of them would cooperate fully with a USOE undertaking of this sort. But it also appears clear that some of them would. As a guess, these would be, at least, the State Departments in New York, New Jersey, Pennsylvania, Minnesota, Wisconsin, Oregon, and California. Others might also join in. The point is, much could be learned if only a few of the States would agree to cooperate by making their Title I and Title III projects the objects of USOE research with respect to replicable characteristics of projects. There is no need, for this limited purpose, to have USOE control over the Title I and Title III projects. All that is required is some -- not universal -- State and Federal cooperation.

CHAPTER II

SPONSORS OF EDUCATIONAL R&D -- THE FOUNDATIONS

The private foundations are no longer a major source of funds for educational research and development projects. In terms of annual outlays, their activity is dwarfed by that of the Federal agencies. Although precise figures cannot be compiled, a reasonably well-educated guess would be that the foundation grants for educational R&D run in the neighborhood of $15 to $20 million, as compared with expenditures in excess of $150 million a year by Federal agencies.

Nevertheless, the foundations are important sponsors. As a rule, they can (and do) finance projects which have more of a risk element than the Federal agencies are willing to contend with. They also have fewer inhibitions about subject matter. Finally, and perhaps most important, they are more willing than the Federal agencies to sponsor outright experimentation.

GENERAL COMMENTS

With respect to the management of their total resources (i.e., in deciding as to what areas of activity to support; what specific activities to support in each area; how projects in progress should be monitored; and how much support should be given to dissemination and implementation), the foundations, as a group, are relatively homogeneous. Except as noted in the following subsections, the general pattern is as follows:

1. The foundation decides on a broad area of concentration, or as is the case with the larger foundations, several broad areas. The decision-making body is the highest governing body of the foundation, usually a board of directors.

   In the larger foundations, considerable professional staff work goes into preparation of background material relating to alternatives for the board's consideration. This material is, of course, distilled by the staff of the foundation, and is usually presented to the board by the president in several stages, a process designed to successively narrow the range of alternatives until a satisfactory set of objectives emerges. The staff work and the president's recommendations carry a great deal of weight, of course, but at this level of decision the board usually takes a very active part, with board members making their own proposals to the president and the staff, and debating the merits of alternatives in a process which might last for many months. What emerges is, in effect, a self-created charter, or mandate, which can be amended only by the board, and which clearly lays out and limits the purposes for which the foundation funds can be used.

In the smaller foundations, the procedure is likely to be less elaborate, but there is essentially the same outcome: a self-created and self-limiting charter which carries the authority of the highest governing body, and which can be amended only by that body.

In all foundations there may be another limiting factor in the terms of the bequest, or other funding, through which the foundation was established. For example, Carnegie Corporation's activities are generally restricted to those which further education. The Russell Sage Foundation can operate only within the United States.

2. The second level of decision-making is to determine which specific activities to support within the areas of interest as determined by the board. Here, the professional staff plays a more decisive role. While in the determination of the "charter" the role of the staff is largely advisory to the board, at this second level a great deal of the actual decision-making is in the hands of the staff. In the larger foundations it is very seldom that the staff recommendations with respect to projects are not ratified by the Board, although the Board usually reserves the formal power of veto. The dominance of the staff at this level is due to three factors:

    a. The sheer volume of projects which come up for consideration is such that, as a practical matter, the Board cannot possibly review them in detail in any responsible way.

    b. The professional competence of the staff is such that projects proposed for approval have already been carefully screened for relevance to the foundation's purposes, for technical feasibility, and for competency of the grantee, and

    c. the staff members know their board, and will not recommend projects which they know would not be acceptable.

3. Almost without exception, foundation support is in the form of grants. There is very little monitoring, it being assumed that the grantee will do his work in a responsible way. Occasionally, however, in the smaller foundations the project officer of the foundation will take an active *and participatory* part in the project.

4. With respect to *research* projects, the major foundations are seldom interested in carrying them through to the development or dissemination stage. An exception is the Kettering Foundation, which has an active interest in classroom implementation of the validated findings which emerge from its funded projects.

   For the sake of clarity on this point, it is important to distinguish between *research* projects (to which the above generalization applies) and *demonstration* or *operational* projects. Foundations are likely to carry these through to their logical conclusion.

5. *Our investigation has disclosed no case in which a foundation includes educational R&D, as such, among its stated areas of interest.* However, substantial support for educational R&D is given by the larger foundations under broader classifications -- e.g., Towards Equality (Rockefeller), Aid to Education (Ford), etc. Some smaller foundations also support educational R&D in connection with a single, but broader, foundation purpose -- e.g., Mental Health (Hogg), general aid to schools in Flint, Michigan (Mott).

   The point here is that foundations do not have a method of managing their educational R&D resources that differs in any respect from their management of all resources. As a rule, they do not even classify their projects so as to show educational R&D separately. Within a larger field of interest, say Aid to Education, projects with an R&D content will take their place alongside demonstration, operational, general support, scholarship, and other projects in the general area of education, all of which will be judged on their merits.

FORD FOUNDATION

1. Policy Formation and Execution

The Ford Foundation's activities in educational research and development operate out of a mandate from the Foundation's Board of Trustees to support the general area of education. The guidelines for the execution of this mandate were developed by the staff in the Education Division. In implementation of these guidelines the Foundation supports educational programs which are issue-oriented; educational R&D is not specifically mentioned. Research projects are supported as they relate to the issues identified in the guidelines.

Currently, the guidelines emphasize support in the following areas:

- new dimensions of problems in inner-city schools (including political, social, linguistic).
- educational problems in areas of the developed world.
- preschool and elementary education problems -- deemphasis on standard secondary educational projects.
- emphasis on speeding up the acquisition of the Ph.D. in the social sciences.
- no more regular support in the hard sciences and engineering.

The Board of Trustees meets quarterly to review and approve division budgets and to review program emphasis. The Board periodically reviews lists of prospective grants, and specialized committees of Board members serve in advisory capacities to the divisions to review recent and prospective grants. These activities provide an interaction between Board and staff members on how the approved guidelines are being implemented.

2. Funding Procedures

The Foundation attempts to have its "program officers-in-charge" identified by their specialized clientele as the contact persons for the Foundation. This contact helps provide a high level of interaction between the Foundation and its public. All proposals not sent directly to these individuals are referred to them.

Program officers have the authority to reject proposals for funding, but not the authority to approve them. When proposals which appear to have promise and which are reasonably related to the Foundation's guidelines are received, the program officer will work with the potential grantee and with his own colleagues and superiors in order to produce an acceptable and meritorious project proposal. Ideally, few proposals which go through this process are rejected. To avoid rejection, the senior officers periodically review listings of proposals being considered so that questions can be raised at an early stage before a great deal of staff time has been devoted or a partial commitment made to them.

The initial approval of a project usually includes the level of funding and the period of time over which funds will be allocated. During the annual budgeting process, however, each project is reviewed to determine the desirability of continued funding and whether or not the promise of the project may be fulfilled in the time period originally supported.

Outside consultants are often brought in to review a proposed project. There is no set group. Individuals are called in at the discretion of the staff. One reservation in the use of experts to review a proposal in their own area of concern is the tendency on the part of such individuals to encourage Foundation support of a project in their area.

Each division in the Foundation receives a set annual budget within which it must operate. A portion of this budget is put aside until later in the fiscal year in order to fund worthwhile projects as they reach the approved stage. Otherwise, all available funds could be committed within a short period of time. On the other hand, there is no reversion of funds to the general budget, so there is no pressure to spend funds on whatever projects are available in order to be able to use the money or to maintain the budget level for the following year.

Often attractive ideas are submitted or in some way identified for which funds are not available or which do not currently have promise. These ideas are often tucked away and periodically brought up for discussion -- and, many times, eventually funded.

3. Approximate Funding

The annual budget for the Education Division is approximately $25 million. Perhaps $5 million of this could be considered educational R&D.

4. Feedback and Evaluation

The view that foundations just give money without interest in the outcome is incorrect in the eyes of the Foundation. On the other hand, however, the Foundation does not expect rigorous project evaluation because of the uncertain nature of much of what is supported, and hence it is nearly impossible to establish pretest or study control groups. The "middle-road" view is to try to fight the tendency to look for the next step in the development of the problem areas before lessons are learned from existing projects. Evaluation, therefore, is encouraged in all projects, and staff members are assigned to try to keep in continual contact with progress being made.

The continual appraisal of current progress is particularly relevant in light of the Foundation's attempt to carry out demonstration projects in one or two areas and to expand into new areas only as new or different dimensions of the general problem are identified. This approach differs from a former tendency (when more money was available) to invest a large amount of money in many approaches to a problem or in many locations at one time.

5. Tie-In With Other Foundations and the Federal Government

The Ford Foundation does not, and would not, accept a cut-and-dried role of filling the gaps in educational research and development left by the operations of the Federal government. Rather, the Education Division tries to keep in close contact with the USOE, and many Foundation people serve on advisory councils to Federal agencies. The Foundation feels it can play a significant role in relation to Federal programs by providing advance experimentation in areas where the government might become involved but does not yet have legal authority and/or staff, and perhaps support projects that in some way evaluate Federal programs and, hence, are best handled by an outside entity. The Foundation carefully tries not to support programs that the Federal government is already supporting or is capable of supporting.

The Ford Foundation also looks carefully at what other foundations are doing not only to keep current, but to avoid duplication and also to collaborate on projects of joint interest, e.g., implementation of the Kerr Commission recommendations and the support of ETV workshops.

CARNEGIE CORPORATION OF NEW YORK

1. Policy Formation and Execution

By charter, the mission of the Carnegie Corporation of New York is to aid education. While the problems and issues upon which it focuses vary and change over the years, the projects it supports either deal with problems related to education or with the utilization of education as a means for the solution to the problems. Also by original charter, a large portion of the projects supported are in the United States with the remaining (about 5 or 6%) in the British Commonwealth countries.

Currently, the major areas of Corporation interest are: higher education, education in arts and medicine, public affairs, preschool education and learning theory. These areas are largely determined by the particular interests and competence of the eight senior professional staff members of the Corporation. While educational research and development is not specifically identified as an area of interest, R&D types of activities may be supported in any one of these areas. For example, in order for the Kerr Commission on the Future of Higher Education, supported by the Carnegie Corporation, to fulfill its task it has, in turn, commissioned some 20 research projects. The staff is constantly debating how the Corporation's funds might be most socially useful without defining areas of interest rigidly, for such a definition might preclude support of good ideas that the staff had not thought to include.

There is, of course, a generally defined universe determined by the interests of the President, Vice-President and the Board. The staff's interests must, somehow, lie within, or closely be related, to that universe.

The Carnegie Corporation operates a rather informal organization. The criteria for decision-making are quite flexible, with a few broad restrictions similar to those of other foundations. For example, the Corporation will not give general support for an established program, but will give operating support for worthwhile beginning efforts. In addition, no money is given to individuals, but if the work of an individual is deemed worthy of support, the funds are handled through some administrative entity such as a university.

The Corporation is a grant-giving, rather than an operating foundation, but it has no program or divisional budget for grants. It provides grants primarily for direct action and experimental and demonstration projects. Very few basic research projects are supported directly but receive support as part of broader efforts. The Corporation occasionally funds major programs like the Kerr Commission, but normally provides grants for projects where specific results can be seen more easily.

The function of the Board of Trustees in regard to interest areas is to react to the deliberations and recommendations of the staff. The Board, then, takes a "re-active role" in defining foci of the Corporation as they deal with specific recommendations for support. The staff will occasionally work with the Board to explore trends in a given area where the staff feels support should be given and the Board is uncertain about the wisdom of such decisions. The Board meets approximately four times a year. Its Executive Committee meets five times a year. One of these groups approves all grants. Those projects involving major commitments or new or controversial areas of interest are brought before the total Board.

2. Funding Procedures

Although the Corporation receives many more unsolicited proposals than it can support, the staff tries to be on the offensive to generate interest and proposals in certain areas which they regard to be of high priority. Proposals are received directly by, or distributed to, staff members to whom they might be of most interest. They are disapproved directly if the particular staff member does not feel them worthy of further review. About one in 15 passes beyond this initial review, and is then sent to the President and Vice-President for determination on whether the request is within the realm of interest and capability of the Corporation. Upon approval in principle by these senior officers, proposals are distributed for individual staff review and then discussed at monthly staff meetings.

Although most proposals reviewed at the monthly staff meetings are deemed worthy of support, funds are never adequate to support them all. Therefore, priorities are assigned almost entirely on the judgment of which projects seem to be most crucial and the best utilization of Corporation funds. Proposals on this priority list, then, may be recommended for approval in their entirety, trimmed down in size, delayed or entirely disapproved. Those recommended for approval are sent to the Executive Committee or to the Board for their final approval. (The President has discretionary powers for grants up to $15,000.) The Board rarely disapproves the recommendations of the staff, but questions are often raised and, on occasion, projects are delayed until the Board's questions are dealt with adequately. Approximately 90% of the proposals submitted by the staff are approved "as is" and about 10% will have recommendations for revision as a condition of approval.

The staff uses external readers extensively for the review of proposals in which their own competence is limited. There is, however, no established procedure for this readership. Because staff members are active in their own areas of competence, very few proposals introduce strictly new ideas to them. If new ideas are received with a feasible plan of action, their chance of approval is great.

3. Approximate Funding

In FY 1968, the Corporation awarded $12,125,000 in 97 separate grants, of which $700,000 was through the Commonwealth program. Twenty-eight of these grants, totaling about $5 million, were classified as educational research and development activities in the U.S.

4. Feedback and Evaluation

Reports are required at least annually for all projects being sponsored by the Corporation. In addition, staff members keep in continual touch with the projects that lie in their area of concern. Also, staff members function as commission members on some of the major programs, such as the Kerr Commission on Higher Education, and, in rare cases, conduct some of the subprojects of those commissions.

5. Dissemination

The Corporation has not set policy regarding the dissemination of results of the studies and projects it supports, nor does it have any policy restricting the support of publication per se. Hence, the Annual Report lists several books that resulted from supported projects. These books were written by the grantees and usually published at their respective institutions. The Corporation also occasionally supports the publication of research and experimentation results and theoretical speculation even though they did not support the projects themselves. The Corporation published a Quarterly Report of interest to others in the field of education in which it describes selected projects in detail.

6. Tie-In With Other Foundations and Federal Government

Although detailed information is not available as to procedures for cooperation and cooperative planning, evidence is fairly strong through the Annual Report that the Carnegie Corporation cooperates actively with other foundations and the Federal government in the conduct of specific projects. There are at least six such projects listed in the current Annual Report. They are: Children's TV Workshop; the New York Urban Coalition; the New York City School Decentralization Study; the Corporation for Public Broadcasting; the National Citizen's Committee for Broadcasting, and the Educational Development Center.

RUSSELL SAGE FOUNDATION

1. Policy Formation and Execution

The Russell Sage Foundation is somewhat unusual as compared with the other foundations investigated as part of this study. It functions as a combination research institute and grant-giving foundation. Forty percent of its funds are granted to its own staff for the conduct of research projects. The Foundation itself is somewhat limited in financial size, granting approximately $2 million for projects in any given year. However, this limited size is offset by a large professional staff of 15 people, all with research qualifications in the social sciences. This large professional staff means that a great deal of staff time can be devoted to the careful review of both the internal and external investments.

The Foundation operates within fairly limited areas of interests, largely identified by the staff and discussed and approved by the Board. The only restriction by charter, is that the Foundation attempt to improve the quality of life within the United States. Gradually, the Foundation has attempted to implement this charter by focusing on the social sciences. The staff has a great deal of discretion in the declination and development of proposals within the areas that are approved by the Board.

There are no established program areas, so one can only glean from the Annual Report a somewhat "ex post facto" grouping of areas of supported activities during previous years. These categories tend to change somewhat from year to year as old projects are terminated and new projects are begun. Most of the research supported by the Foundation is theoretical in nature and little of it is directly related to education.

2. Funding Procedures

In a nutshell, the funding procedures of the Russell Sage Foundation are that the staff declines and the Board approves. All unsolicited proposals not sent directly to a specific staff member are reviewed by the President and any that fall outside of the current areas of interests of the Foundation are immediately declined. All the staff members receiving proposals carry out the same function on proposals that they receive. Those proposals retained are directed to staff members for a thorough review. Staff members who wish to have their own research projects supported submit proposals in the same manner. These proposals are scrutinized more thoroughly because of the desirability of having only high quality proposals coming from the staff. Of course, the staff has insight into the process of obtaining support and thus is able to develop its proposals with more assurance of approval. Staff members propose projects in the areas of their own interest, not necessarily those that seem to be the current focus of the Foundation. However, the interests of the staff do not vary greatly from those of the Board, for staff members are selected by the Board on the basis of their research interests. The Foundation encourages external proposals as well as staff proposals because they feel that good ideas can come from either place.

Because of the high level of capability in the Foundation staff, external proposals that seem to have some promise are carefully developed by staff members in cooperation with the potential grantees. The staff has the authority to decline proposals at any stage of review should these developments not prove fruitful. None of the declinations are reviewed with the Board of Directors.

Because the Board meets only three times a year, the President is provided a limited contingency fund through which he can provide grants up to $5,000 for those projects needing immediate support. However, these grants are rarely for more than $1,000 or $2,000.

3. Approximate Funding

As mentioned above, the Foundation's grants total approximately $2 million each year. Approximately 35 projects are supported each year. Forty percent of these are in-house research and 60% are external grants. Very few of these grants are to support educational research and development, and essentially none of the projects supported deal directly with the teaching-learning situation.

4. Feedback and Evaluation

The Foundation's staff keeps in close contact with the progress of the external research being supported. At the very minimum, annual reports are required, but more often staff members will initiate contact with grantees to determine whether or not the competences of the staff can be utilized to solve problems in the project. The staff evaluates the results of projects supported inasmuch as the Foundation reserves first rights on the publication of the results. All results are evaluated with possible publication in mind, and the Foundation maintains its own publication program.

5. Dissemination

As mentioned, the Foundation has first publishing rights. If the staff feels that the results of a research project are of high quality and of sufficient interest to the research community, the Foundation will publish these results through their own publication operation.

6. Tie-In With Other Foundations

The Russell Sage Foundation has often been called the "Foundation's Foundation." This is due, in large measure, to the interest of a former staff member in the study of philanthropy, and the Foundation's support of the Foundation Library Center. Out of this study has grown the publication of The Foundation Directory, now in its third edition. However, projects are only occasionally sponsored jointly with other agencies or foundations.

CHARLES F. KETTERING FOUNDATION

1. Policy Formation and Execution

In 1964 the Charles F. Kettering Foundation set out to assess the impact of its educational grants. Amazed at the almost negligible impact of their grants, the staff and Board decided to institutionalize the application, dissemination, and implementation of the results of both Foundation-supported and other research. As a result, the Foundation became an operating, as well as a grant-making organization in the field of education through the establishment of the Institute for the

Development of Educational Activities. The Institute (IDEA) was first a division of the Foundation and later an incorporated subsidiary. As a separate entity, IDEA can secure grants from external sources and is flexible to develop expertise in the areas of educational innovation. The existence of the Institute with its focus on dissemination and implementation sets the educational R&D efforts of the Kettering Foundation apart from those of the other foundations studied.

The Foundation Board is composed of prominent educators and business leaders and serves also as the Board of Trustees of IDEA. The Board meets every six months to approve major directions of both the Institute and the Foundation, and to budget funds for major areas of activity. From that point on, the staff has a great deal of latitude and authority in the use of the Foundation's funds and in the selection of projects to support. All proposals for external grants, however, are formally approved by the Board of Directors.

2. Decision-Making in IDEA

The Institute is composed of three semi-autonomous divisions: Research and Development, Innovative Programs, and Informational Services. The somewhat independent nature of these divisions is partially determined by their location. The R&D Division is located at the Graduate School of Education at UCLA, the Innovative Programs Division is in Dayton, and the Informational Services Division is in Melbourne, Fla.

The key decision-makers in the Institute are the Executive Director and his Administrative Council. The Council is made up of the Executive Director, the Directors of the three divisions in the Institute, and the Institute Program Officer. These five individuals review all basic Institute policies, identify and agree upon major program thrusts, and advise each other on specific divisional efforts. While no specific Board members are assigned the responsibility for education, the Executive Director, who is also Vice-President for Education of the Foundation, tries to maintain communication with members of the Board who have particular strengths and interests in education.

The Institute is evolving into a service agency which attempts to help bring about the adoption of innovative practices in U.S. public schools. Three areas of current focus are: early childhood, elementary education, and secondary education. Within these areas, IDEA is attempting to develop expertise about those innovations that might have the greatest impact on the total educational program of a school district.

The functions of the R&D Division are primarily surveying the state-of-the-art of educational change and conducting experiments involving new ideas in several cooperating and demonstration schools. The Division does not conduct basic research, but attempts to identify some of the gaps in basic research related to innovation. Research in these areas might then be supported through external grants by the Kettering Foundation. Some 50% of the IDEA staff is employed in this division, and most of the staff members are connected in some way with UCLA.

The Innovative Programs Division provides grants to school districts and others interested in educational change. Help is made available to school districts and governmental or private educational entities upon request. The Division maintains competence of its own staff in the area of specifications for educational facilities (primary focus) and serves as an organizing and integrating force to bring to bear the resources of a "core of consultants" on all of the educational problems of a particular school district. Through the core of consultants, IDEA can help a school district to mount a coordinated and integrated revision of its entire program. Some attempt is being made to multiply the affects of the Institute by working with architects and state education agencies who, in turn, might effect change in a larger number of school systems. The cost of the consultation service is borne by the school districts themselves while the Foundation underwrites the operating and staff costs of the Institute.

The Information Services Division develops all materials for the Foundation, including reports of seminars and conferences, working papers supported by the Foundation as background for the implementation of certain innovations, and a microfiche library of elementary science, reading, and social studies curricula. The Division also develops material for informing the lay public on the feasibility of changes in education, and for the in-service training of teachers and administrators. The Information Services Division will identify interesting areas of innovation and will develop material relating to these even though they do not currently bear directly on the activities of the other two divisions.

It is expected that as the demand for services increases, the Institute will have to become more specialized and restricted because of the impossibility of servicing all requests. At that time, IDEA will probably provide some clearinghouse function for areas in which it does not maintain an expertise, and will attempt to focus primarily on those innovations that have promise of having the greatest impact on educational change.

3. Funding Procedures

All requests to the Kettering Foundation for external grants in education are routed through the Vice-President for Education (also the Executive Director of IDEA) for review. Of all of the external grants made by the Foundation, 90% are in the field of education. Of course, only a few of the requests received are actually funded.

The Foundation has restrictions on the granting of support, such as: no grants to individuals, no support of study-tours, no operating support, and no grants for the construction of facilities. All requests are initially referred to, and reviewed by, the Vice-President for Administration. Any that fall outside of the Foundation's range of interests are turned down or declined by him. Those remaining are sent to the Vice-President for Education for review by him and his Institute staff. At times, consultants will be called in to review proposals. The decision of whether or not to support various projects is based on a loose statement of priorities and on the staff's judgment of which projects might have the greatest long-range effect and, hence, be the best investment of the Foundation's funds. There is some tendency to support projects that might be closely related to the efforts of the IDEA. All proposals received by the Foundation are grouped by topic, listed by title and by name of the person requesting support, and submitted to the Board of Trustees at their semi-annual meetings. At that time, a number will be recommended for support and the Board usually approves those that are recommended.

4. Approximate Funding

In the 1967-68 fiscal year, the Kettering Foundation provided $5,730,000 in support of its scientific and educational activities. Of this total, $1,924,000 was allocated to IDEA for its operation, $44,000 was allocated for a survey of public attitudes toward educational change, the results of which were used by IDEA, and $1,841,000 was allocated to external parties for the support of educational activities. Due to the nature of the Foundation's interests and limitations on support, one can assume that a large part of this $1,841,000 was for experimental types of activities.

5. Feedback and Evaluation

The internal operation of IDEA is, of course, in continual review by the Administrative Council of the Institute. At the minimum, annual and terminal reports are required with respect to all external projects supported. However, some flexibility is established and maintained with each project so that frequent contacts can be maintained if such are deemed desirable. The results and conclusions that might have been reached through any of the external projects are carefully reviewed by the Institute staff to determine their possible utilization as part of the on-going IDEA activity.

6. Dissemination of Results

The on-going activities of the Institute are published and disseminated in two major ways. A quarterly newsletter is distributed to all public school districts in the country and to many individuals in the field of education. This vehicle provides brief reports on attempted innovations, the results of various experiments, and reviews of other publications available from the Institute. The other focus is the publications that arise from various conferences and experimental programs, working papers, and the result of external projects supported by the Foundation.

In addition to publications, the league of cooperating schools (some 20 in number) in Southern California and some 35 demonstration schools around the country are utilized by the Institute as visiting sites for educators interested in observing the innovations in practice.

7. Tie-In With Other Foundations and the Federal Government

Some lines of communication are maintained between the Kettering Foundation and IDEA and the other foundations interested in educational R&D. Communication tends to be in the form of exchanging points of view, comparing notes, keeping in contact with other staff members, and reviewing annual and other special reports of interest. There is no formal structure to carry out this communication and the foundations tend to keep to themselves until nearing completion of a project or a major effort. There is some cooperation between Kettering and other foundations on special projects. For example, the Danforth Foundation supported, and the Institute organized, a recent conference on student revolt and the Ford and Kettering Foundations are jointly supporting a new effort in the utilization of satellites for educational television.

The Foundation does not cooperate directly with the Federal government in cosponsoring activities, but attempts to look at the major pieces of Federal legislation and their implementation so that they might steer away from duplicating activities for which public funds might be available, and to identify needs that the Foundation might best meet.

OTHER FOUNDATIONS

Material for the foregoing sections was obtained in large part through personal interviews with officials of the foundations whose activities are described. In contrast, the material in this section was obtained entirely by mail and through documents such as annual reports.

Seven small foundations are reported on. They were selected because of their known interest in education. The seven are:

THE COMMONWEALTH FUND
THE DANFORTH FOUNDATION
ESSO EDUCATION FOUNDATION
THE MOTT FOUNDATION
THE GRANT FOUNDATION
LOUIS W. AND MAUD HILL FAMILY FOUNDATION
LILLY ENDOWMENT INCORPORATED

1. Policy Formation and Execution

The involvement of these seven foundations in the field of education varies greatly in both extent and nature. The Esso and Hill Foundations are the only two that even implicitly identify educational research and development as an area of interest and specify procedures for its support. However, the other five foundations support at least some R&D types of activities as means of carrying out their major foci in education.

The Commonwealth Fund is primarily interested in medicine and the delivery of health services. Educationally, its interest is in developing new curricula for medical education. These areas of interest and relevant policies are spelled out by the Board, often with the use of outside consultants. The Fund states no restrictions on the types of grants that it will consider; i.e., the Annual Report indicates that some grants are provided for operating and building funds. The Board of Directors meets three times a year, with the Executive Committee of the Board meeting more frequently to consider smaller proposals and those more clearly fitting within stated policies and areas of interest.

The field of education has long been the major interest of the Danforth Foundation. It supports R&D activities in line with its areas of interests. For example, it recently supported a study of the future role of private colleges and universities. The Foundation recently identified urban problems as an area for major emphasis and it will support educational activities related to this area. The decision to enter this new area was made by the Board of Directors, as have similar decisions in the past, but the idea was initiated by the staff. Such program decisions are often reviewed by outside consultants.

The Danforth Foundation is both an operating and grant-making foundation. Approximately one-third of its budget goes into its own administration of such things as fellowships, grants to individuals, and workshops. Areas of education listed as being outside of the Foundation's interest are: adult education, elementary and preschool education, and informal education programs. Also, support is not provided for salaries, operating expenses, and building. Even though various members of the

Danforth family are on the Board of Trustees, the Foundation staff regards the organization as a professional foundation and sees the Danforth family as taking a decreasingly active role.

The Esso Foundation's primary interest is the support of institutions of higher learning. It not only provides funds for educational research and development within this area of interest, but also provides support for innovative projects in undergraduate education through a program called Support for Promoting the Utilization of Resources (SPUR). Grants under this program are limited to $75,000 per project. The Foundation was founded by and receives 85% of its annual income from the Standard Oil Company of New Jersey and its affiliates. It has a small professional staff that formulates program areas and a standing advisory committee of leading educators. The Board meets three times a year to review the policies and programs of the Foundation, to ratify grants made by its Administrative Committee, and to approve grants submitted at the time of the Board meeting.

The major interest of the Grant Foundation is the mental health of children. As a part of this interest, a significant portion of its grant-making activity (approximately 40% in FY 1967) was directed toward the psychological aspects of education. The Board is regarded as the policy and decision-making body of the Foundation, but it functions in consultation with the staff. A preponderance of the Foundation's grants are made to agencies in the United States.

The Hill Foundation is interested in science, welfare, and all levels of education. Many of its projects classified as scientific or welfare are educational in nature. It long has been interested in basic research, but is now giving increasing emphasis to applied research and experimentation. The Foundation attempts to identify problem areas and to support projects in the northwestern portion of the United States. The Foundation staff keeps in professional contact with educators in the northwestern region and uses these individuals as informal advisors and consultants. The Board of Directors meets monthly, and works together with the staff to determine priorities and guidelines.

The majority of the educational support provided by the Lilly Endowment is given to selected church colleges in Indiana in the form of unrestricted annual grants. Rarely are new institutions added to the list and grants are not made to individuals. The Board of Directors sets policy and continues the Endowment as a grant-making foundation.

The basic area of interest of the Mott Foundation is the development and promotion of the community school concept. The Foundation's efforts in this area are primarily focused in using the community school system in Flint, Michigan as an arena for innovative solutions to problems arising in that area of concern. The Foundation does support university fellowships and regional centers at seven universities where some of the lessons learned from the Flint experience can be disseminated. The Board of Directors establishes the policies and parameters in which the staff works. The staff, of course, recommends many of these policies to the Board. Contact is maintained with outside advisors on an informal basis to review policies of the Foundation. Most of the Foundation's grants are for the operation of programs; those in Flint are administered through the Mott program of the Flint Board of Education.

2. Funding Procedures

As was typical of the foundations visited, the varying funding procedures of the seven reported here boil down, in essence, to the adequacy of proposals being reviewed by staff and final decisions being made by Boards of Directors or their representatives. The details of handling and the amount of discretion at various levels vary from foundation to foundation.

The Commonwealth Fund regards itself as a typical professional foundation. It responds to all verbal and written inquiries for support, with inquiries of particular interest being mentioned at a weekly staff meeting. If the staff decides that it might be feasible to support the idea, then this possibility is discussed with the potential grantee and he is invited to submit a formal application. At times, outside consultants are used to review these formal applications. If the staff feels that the proposed project would have broad impact in its areas of interest and the person or institution involved is of adequate quality, then, with the

President's approval, the staff recommends approval of the proposal to Board members two weeks prior to their meeting. The Board of the Executive Committee approves all grants, with the latter approving smaller and more typical proposals. The President has a revolving fund out of which he supported 7 projects during 1967-68 varying in size from $3,000 - $10,000 each.

The Danforth Foundation distributes formal proposals to staff members working in the areas of interest of the proposals. All proposals are reviewed by a committee of staff members, and from the committee go to the total staff and then to the Board. Proposals may be rejected at any level -- by individual staff members, committees, the total staff, or, of course, by the Board. The Board is provided with a list of proposals declined and brief explanations of those declinations. Outside consultants are used at times in reviewing proposals where the staff feels it competence is limited. The President, staff members, and committees have some discretionary funds, but these are reportedly not widely used. On all other projects, final decisions are made by the Board.

The procedures of the Esso Foundation are more specifically defined than for any other foundation studied. Initial inquiries must be in the form of a preliminary outline, the specifications of which are prescribed in detail. Proposals under SPUR may be submitted at only two different times a year. The staff reviews the preliminary outlines and determines which ones seem to warrant further consideration. The staff reviews the detailed proposals requested, sometimes with the advice of outside consultants, and the proposals are then reviewed by the advisory committee of educators. The staff recommends approximately 25% of the detailed proposals for funding, taking into consideration the recommendations of the Advisory Committee. The Administrative Committee of the Foundation, made up of various officials of Standard Oil Company of New Jersey and its affiliates, decides on the majority of the grants. The Foundation gives $2,500 presidential-contingency grants to a large number of private colleges each year. These funds are unrestricted as to use and are made automatically without application. Various capital grants are given to private institutions upon application, and unrestricted grants are given to both engineering and science departments.

The availability of information about the funding procedures of the Grant Foundation is limited to the statements that proposals are mainly unsolicited; staff reviews all proposals, using advisors when appropriate, and staff makes site visits when deemed necessary.

The Hill Foundation staff prides itself on its close interaction with professionals in the fields of education, science, and welfare in its northwest region. Therefore, many of its proposals result from staff initiative in various conferences and discussions. Proposals are evaluated by the staff and recommended to the Board. Outside consultants are often used on an informal basis; rarely is a fee involved. According to the Annual Report, each formal request for funds is reviewed by the Board of Directors for either declination or approval. Approximately 13% of all formal applications are approved. The staff has no discretionary funds.

The pattern of giving by the Lilly Endowment is fairly established, but grants given to other projects result primarily from unsolicited proposals. Occasionally ideas are suggested by the staff and result in a formal application. The staff has the authority to turn down proposals that are clearly outside of the areas of interest established by the Board. Occasionally, consultants are used to review proposals. Final decisions on project support are made by the Board.

Because the Mott Foundation concentrates its giving in the Flint Community School Program, its staff has a high level of interaction with those receiving its funds. Most proposals, therefore, stem from this interaction. Requests for funds are logged by the Secretary, acknowledged, and reviewed for their appropriateness to Foundation policy. If they seem appropriate, they are sent to the Project Director for further review. From there they go to the Comptroller, who determines legal acceptability, and then to the Executive Director or Assistant Director. From there they go to the Foundation President and only then to the Board of Trustees. Denial can be recommended by any of these individuals at any level of consideration, but must be finally acted upon by the Board. The Board, therefore, approves all grants and denials. Outside advisors are used only informally in the review of program areas and specific proposals.

3. Approximate Funding

The amount of support for educational research and development varies from foundation to foundation, as does the feasibility of assessing the proportion of funds so deployed. The Commonwealth Fund granted a total of $7.6 million in 1968, 6.7 million of which was devoted to medical education and community health. It is not possible to determine from the Annual Report the proportion going to educational research and development, but the National Board of Medical Examiners was given $300,000 to study educational testing and measurement. The Danforth Foundation granted a total of $6,984,000 in 1967-68, but only $617,000 (or less than 10%) of this payment was made on grants approved during that year. In addition, $5,973,000 in grants were approved in 1967-68, but were not paid at that time. In other words, only 10-15% of the Foundation's approved grants are paid during any one year, evidencing a long-range time dimension in grant operation. It is impossible to determine specifically the research and development grants from this total operation. The Foundation's operating program cost $3,780,000 during the 1967-68 fiscal year.

The Esso Foundation provided $512,000 in 1967-68 to 21 different grantees for educational research and development, and in the previous year provided $424,000 to 30 different grantees. Over the 13-year period from 1955 through 1968, the Foundation averaged $156,000 for eight and a half grants a year. These figures indicate that the amount and incidence of support in educational research and development is increasing. The Foundation granted a total of $2,536,000 in 1967-68, an increase of $75,000 over the previous year, including $216,700 for SPUR projects.

During FY 1967, the Grant Foundation appropriated $2,826,174, of which $1,222,700 was granted for projects on the psychological aspects of education. Only $800,800 of the total appropriations were paid during the year, and $1,764,800 was spend for appropriations made in previous years. The Foundation, therefore, seems to experience an approximate 35-40% project turnover each year. The staff indicates that approximately $500,000 is granted each year for projects that could be classified as educational R&D.

During the 1967-68 FY, the Hill Foundation granted a total of $2,720,000 out of which some $295,000 (according to its estimates) might be considered research and development. They estimate that their educational giving was down about 1/3 from the previous year. The Foundation has a close monitoring policy, and, therefore, during the year some $320,000 in grants were cancelled and some $640,000 was refunded from grants previously made.

The Lilly Endowment gave an estimated $150,000 (of its approximately $2,400,000 in educational grants) to research and development. Educational giving is said to be less than it was five years ago. A total of $5.9 million was granted on all projects during the year.

The Mott Foundation report did not provide lists of its expenditures.

4. Feedback

All of the foundations that are discussed here require their grantees to submit reports on their projects. The Commonwealth Fund asks for informal progress reports and a final written report. The Danforth Foundation does some monitoring and requires an annual statement from each grantee. The Esso Foundation requires only final reports. The Grant Foundation requires at least annual reports, and some site visits are made. The Hill Foundation usually requires semi-annual reports, and always asks for annual and final reports. In addition, staff members visit and confer with grantees and sometimes consult advisory groups for particularly uncertain projects. The Lilly Foundation has informal contacts with its grantees and requires brief annual resumes and complete final reports. The Mott Foundation is in close contact with its grantees, with staff members personally evaluating and monitoring the progress of funded programs. In addition, both quarterly and annual reports are required.

5. Dissemination

Typically, as with other foundations studied, these seven leave dissemination up to the grantee, but do some reporting in the Annual Report. The Commonwealth Fund usually does not support dissemination directly, but does underwrite some monographs that result from its projects. The Fund will also occasionally support other monographs that have limited, but important, appeal. The Danforth Foundation occasionally supports major publications in areas in which they have concentrated their efforts. Some progress reports on projects are included in a periodical bulletin sent out by the Foundation.

The Esso Foundation retains first publishing rights on all monographs and reports arising out of projects it supports, and also supports a journal called "Change" which is devoted to academic criticism, commentary, and innovative ideas in the field of higher education. This journal is not necessarily a reporting vehicle for the projects it supports. The Grant Foundation describes all projects in its Annual Report, and supports some publications in its area of interest. The Hill Foundation provides a detailed description of the projects it supports in its Annual Report and does provide some support for publications reporting or originating out of the projects that it funds. The Lilly Foundation will support dissemination as a part of a project, but makes no special efforts otherwise. The Mott Foundation regards its extensive visitation programs to the Flint Community Schools as its main dissemination tool and, in addition, gives detailed statistics on programs and participation in its Annual Report. The Mott Foundation also supports various university centers and internship programs which hopefully utilize knowledge gained from studies of the Flint program.

6. Tie-In With Other Foundations and the Federal Government

All of the foundations discussed here, with the exceptions of Esso, mentioned that they consider the activities of other foundations and the Federal government as they define their own program areas. The Commonwealth Fund indicated that Federal support of activity has provided reason for their own redefinition of areas of interest. The Dansforth Foundation indicates that they are increasingly sensitive to efforts of other foundations and are making efforts to cooperate more closely with them. The Hill Foundation indicates they occasionally will work with other foundations if they (the Hill Foundation) are in at the beginning of the project. The Lilly Foundation indicates occasional project sharing, but no conscious attempt is made to increase the level of such activities.

CHAPTER III

THE PERFORMERS OF EDUCATIONAL RESEARCH AND DEVELOPMENT

Three principal groups of "performers" of educational R&D were included in this study: the universities, the R&D Centers sponsored by the Office of Education, and the Regional Educational Laboratories, also sponsored by USOE.

In one sense, this triumvirate is a totally artificial and potentially misleading sample of educational R&D performers in the United States. Education, like any cultural activity, is significantly molded by secular changes in technology and philosophy -- changes that may emerge from a wide variety of private and public, individual and group, activities. As Bloom, Getzels, Cronbach, Suppes and others have pointed out[1], paradigmatic alterations in education are constantly going on, and have roots in the disparate work of academic scribblers and systems engineers of some years back.

Even a survey of contemporary and specifically articulated "educational R&D", would have to go far beyond the institutions considered in this present survey. Industrial offshoots such as General Learning Corporation and Westinghouse Learning Corporation, private testing services like ETS, and a host of textbook and educational hardware companies are important centers of educational research and development. In terms of its broadest definitions, educational R&D is, in fact, so vast, so diffused, so thoroughly mixed with "operations" and even "architectures" as to make a comprehensive survey next to impossible.

Universities, R&D Centers, and laboratories, then, can be considered useful "for instances" of a larger and expanding universe.

In addressing this triumvirate, the technique used was a structured interview, conducted by 14 interviewers recruited from various regions of the country. The institutions covered were selected in consultation with USOE. All interviews were conducted organizationally at a high level, typically combined Center and Regional Laboratory program. This did not mean the abandonment of the funding of separate projects. Far from it. Out of the current USOE/R&D educational budget a fairly high percentage goes for project support, perhaps as much as 30%. And, most of this goes to universities.

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[1] Benjamin S. Bloom, "Twenty-five Years of Educational Research", American Educational Research Journal, Volume 3, Number, May 1966; J.W. Getzels, "Paradigm and Practice: On the Contributions of Research to Education", mimeographed; Lee J. Cronbach and Patrick Suppes, Research for Tomorrow's Schools: Disciplined Inquiry for Education, Editors, New York: The Macmillan Company, 1969.

1. Universities

   Sixteen universities were chosen for review. These 16 were identified by multiple respondents as having "highly regarded" educational R&D resources.* The parts of the selected universities most relevant to the work of this survey tended to be schools of education and departments of psychology. Altogether, these 16 universities received approximately 40% of USOE's educational R&D grants during fiscal years 1965, 1967 and 1968, or a total of about $70 million for the three-year period.

   The pattern that emerged from the interviews at the universities is one cogently stated by the dean of one of the best-known schools of education -- "Our policy is to hire good people and give them a free hand .... The professors set their own guidelines .... Staff interests control our research activity."

   Other supporting and illuminating comments included the following: ".... projects are generated out of the heat and light of a few people .... With respect to internally generated projects, the college professor participating is king."

   "The guidelines for determining areas of interest come from the investigators themselves. This is consistent with the fact that the school of education operates in a manner similar to that of any other academic unit within the university."

   "Talents are found in the faculty, and support is sought for those talents as opposed to handing guidelines down from the top."

   Lest this sound too much like substantive anarchy in the professional ranks, two qualifications are necessary:

   a. In practically all cases, proposed research projects must be approved by the dean, the department head, and/or (in some cases) by a research committee. There can be any number of reasons for this procedure other than an attempt to control research content (e.g., controlling research with university deans or department heads, and with directors and associate directors of the R&D Centers and the regional educational laboratories.

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*See appendix for list of universities.

The findings from the interviews have been placed in the context of a rapidly growing body of excellent literature about the performers of educational R&D in the United States -- especially R&D Centers and educational laboratories.

The choice of issues established for special consideration in this survey was influenced strongly by the results of interviews with the sponsor groups (Chapters I and II) and by the Impact and Attitude Surveys (Chapter IV).

The principal issues selected were these:

1. Whether R&D activities are mainly conducted on a "project" or on a "program" basis.
2. The degree to which research is multidisciplinary.
3. Attitudes towards the delivery of the research results to the classroom.

It may be useful as a preamble to the findings to note the following idealized spectrum of educational "knowledge into practice" involving the component institutions in our survey:

Pure Research — Application

Universities — R&D Centers — Educational Laboratories

The fact that some pure research is in fact taking place in Educational Laboratories and some direct demonstration, development, and diffusion activities are being undertaken by lone scholars in universities or by groups in R&D Centers, should not blind us to the fact that the spectrum has general validity.

Until 1963 practically all of the limited USOE funds for educational R&D were allocated on a "project" basis. That is, a grant would be approved if a researcher could demonstrate the need for the new knowledge which he proposed to develop, if he could demonstrate professional qualifications and technical competence and if he had the support of his institution (usually a university). Little regard was paid to the relationship between individual research projects or to their prospective cumulative contribution to the solution of problems. The resultant research output, whatever its scientific validity, contributed fragments of problem solutions but left many pieces of the puzzle missing.

Largely because of this situation, USOE decided to establish its R&D Center program, which was later expanded into the load which might eat into classroom time, avoiding duplication, appraising the proposal for technical excellence). Nevertheless, approval of projects prior to submission to a sponsoring agency does create an opportunity to guide proposals into at least a loose programmatic format.

b. Many schools and departments do have specialized emphasis in their teaching. This is bound to result in a similar emphasis in their research, even while professorial independence is being maintained. The reason is that faculty members tend to be employed because of their professional interest in the teaching mission of the school (department). For example, if the major purpose of a school is to produce qualified elementary and secondary teachers, it is likely that research will be related to elementary and secondary school problems.

In spite of these qualifications, it seems abundantly clear that the universities are not generally engaged in programmatic educational R&D in any meaningful sense. This, of course, is in keeping with the traditional role of the universities in their research capacity -- the role of giving free rein to discrete scholars in their search for new knowledge.

University research tends on the whole, then, to be project oriented. It tends not to be multidisciplinary in character. It tends to have no interest in the application of research results to general classroom use.

2. R&D Centers and Regional Educational Laboratories
With respect to the 9 USOE-funded R&D Centers and the 15 USOE funded regional laboratories in the United States, all are to some extent, programmatic. They have to be. However, projects are the pieces from which a program is created and maintained, and logically there are many different ways in which these pieces might be put together. At one extreme one might find a group of independent projects loosely related to one another which have been brought under a single organizational umbrella, and called a "program". At the other extreme, one might define highly specific program objectives and admit into the program only those projects relevant to meeting those objectives, with strict central management controls.

Both extremes are archetypes. Neither is, in fact, evident in any pure form from the interview results.

In general, interviews indicate a continuing refinement of programmatic goals in both the R&D Centers and the laboratories. Much of this refinement has taken place as a result of budget stringencies, and of USOE staff and site-committee pressures upon local research management. The programmatic thrust of the several centers and labs, and some of their traumas in defining programmatic targets during their early years, have been cogently analyzed elsewhere.* A general summary of stated programmatic emphases can be found in the instructions to interviewers, Appendix A.

What must be emphasized here is the fact that a shortage of S & E money in the USOE budget has made it difficult to the point of virtual impossibility to rationalize in any meaningful, interdependent sense the over-all programmatic gestalt of institutionalized educational R&D among the several centers and laboratories. Programs were initially developed, not in terms of a Washington-created set of interlocking priorities. Programs evolved out of the accidents of enthusiasms and talents related to the creation and subsequent modifications of the staffs of the centers and laboratories.

Perhaps this is the only way the centers and labs could have evolved. But after five years of more of operations, the net impression left on the programmatic integrity of the total Title IV activity involving centers and labs is that is is extremely cloudy. Expediential responses to funding crises, and the not always consistent comments -- formal and informal -- of various site vistors and staff, have tightened at least the language describing many centers and laboratory programs. Much good, highly directed research goes on. But looking at the centers and labs together, there is still little programmatic strategy in national terms, there are large and serious R&D gaps, there is some duplication of effort, and there is considerable confusion over mission definition.

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*See, for example, the Journal of Educational Research & Development, January 1970, passim.

Turning to the second issue, the extent to which center and laboratory research is, in fact, multidisciplinary, the answer is mixed and it is changing over time -- especially in response to pressures from the United States Bureau of the Budget and its scientific allies around Washington. One of the fears of the drafters of Title IV of ESEA was that traditional educationists and psychologists would dominate the educational R&D efforts under an expanded Cooperative Research Act largess. The concern of Congress to promote a multidisciplinary approach to educational R&D is best described in the following excerpts from the House Committee Report on ESEA (Committee on Education and Labor, 89th Congress, 1st Session, Report 143, page 18).

> "Title IV authorizes the establishment of a series of national and regional educational laboratories providing comprehensive support of educational research, development, dissemination, and training. Through this program artists, historians, mathematicians, and other scholars would work closely with psychologists, sociologists, teachers, and administrators from local school systems to conduct research, develop it into forms that can be used in classrooms, continually test and retest these new forms, train teachers in their use and make research results available to local school systems."
>
> "Involvement of different types of intellectual talent as well as different types of educational concerns will be crucial to a broad-based laboratory program. The scholar, the researcher, the local school teacher, and the administrator would work together as a team to develop high-quality programs for a wide segment of the student population. The laboratory program calls for involvement of the educational system at many levels -- state departments of education, local school systems, colleges and universities, the proposed supplementary educational centers, and experimental schools. In addition, private research organizations, industry, and other groups in the community with appropriate talent and resources have much to contribute to the activities of the laboratories."

> "Such cooperation is relatively new but it is already showing promise of becoming a successful educational research strategy. Recently the National Science Foundation and the Office of Education have supported projects with interdisciplinary representation from universities and school systems. Working together, these teams have produced new instructional materials and systems, laboratory equipment, textbooks, teacher guides and films. Pilot research and development centers using this approach were established under the Cooperative Research Act in 1965 at a cost of approximately $1.9 million at the Universities of Pittsburgh, Oregon and Wisconsin, and at Harvard University."

Practically the same language occurs in the Senate report and in floor discussion in both houses. It is not clear whether the reference was being made to the R&D Centers, to the regional labs, or to both. In context, it appears to apply to both. However, it is perfectly clear that the sponsors of the ESEA (which included USOE) and the Congress wanted to bring a wider spectrum of expertise into the business of educational R&D, and that USOE acted shortly after the passage of the act to move in that direction.

In the summer of 1968, the Journal of Educational Research and Development compiled a table showing the academic disciplines of the professional staff members of the various R&D Centers around the country. A facsimile of the table appears on the following page.

The data would indicate that except at John Hopkins, there is little multidisciplinary collaboration in the R&D Centers -- beyond the traditional linkage between psychologists and educationists. It is clear from field interviews and from conversations with the USOE staff that the regional laboratories have done little better -- at least until recently.

"Until recently" is an important qualification. In the higher staff echelons of the Federal government, there is a pervasive suspicion of the intellectual competence and rigor of the bulk of existing and self-styled educational research-and-development specialists in the United States. Turning to the "science fraternity" for advice and guidance, the program and budget people responsible for high level staff recommendations to the President and his Cabinet on educational matters, have had most of their prejudices reinforced by the findings of "scientific panels". "Educational R&D is too important to be left to educationists and psychologists" is the general refrain. Within this view of reality, the only way to make

RESEARCH AND DEVELOPMENT CENTERS

ACADEMIC DISCIPLINE OF PROFESSIONAL STAFF
(Number of Staff Members)

CENTER FOR:	<------------ ACADEMIC DISCIPLINE ------------>					
	Education	Psychology [1]	Sociology [2]	Other [3]	Not Specified	Total Personnel
Educational Adm. (Oregon)	12	2	3	3	---	20
Learning R&D (Pittsburg)	11	10	2	2	6	31
Cognitive Learning (Wisconsin)	12	7	1	3	---	23
Educational Stimulation (Georgia)	44	12	1	6	1	64
Teaching (Stanford)	16	1	6	2	---	25
Teacher Education (Texas)	10	13	---	---	2	25
Higher Education (Berkely)	13	9	2	2	6	32
Evaluation in Instruction Programs (UCLA)	11	7	1	---	---	19
Social Organization of Schools (John Hopkins)	3	2	17	1	3	26
TOTAL	132	63	33	19	18	265

[1] Includes listing under Educational Psychology.

[2] Includes listing under Department of Social Relations (John Hopkins only).

[3] Other disciplines (Total, all centers): Economics, 4; Mathematics, 3; Political Science, English Art, Business Administration, 2 each; Engineering, Geography, Music, History, 1 each.

Source: Compiled from listings in Journal of Research and Development in Education, Vol I, No. 4 (University of Georgia, Athens, 1968) the R&D Centers and the labs perform effectively (and satisfy the legislative mandates mentioned above) would be to have them bring aboard staffs drawn from the most sophisticated areas of mathematics, the natural and behavioral sciences, and physical and social engineering.

There is some evidence that this continuous pressure upon the USOE staff has been displaced to the centers and labs, and that new types of scholars and practitioners are in fact now being drawn into the institutionalized educational R&D supported by Title IV funds.

But there is still a long way to go before the centers and labs can be considered truly multidisciplinary.

The only caveat to this rather gloomy conclusion about the recent past is that the university setting does permit the centers to draw on university faculty members on an ad hoc basis without necessarily listing them as members of the center's professional staff. The occasional (and oblique) references to "consultants" which came up in the course of interviews suggests that this has been the usual practice -- at least in some cases. Furthermore, many schools of education are sufficiently multidisciplinary within themselves to provide the variety of expertise needed for broad-based educational research. The formal names of academic schools (and the titles of individual staff members) are often misleading.

Nevertheless, it is fair to conclude from the data that the establishment of the centers and the labs has done little -- at least until recently -- to diminish the dominance of the faculties of education and psychology in the field of educational R&D.

The final issue, that of dissemination and diffusion activities of the centers and labs is difficult to summarize. Perhaps a fair reading is that all do some and a few do much but, in total, the "knowledge-into-practice" activities leave much to be desired.

In fairness, there are reasons. First, compared to the cost of basic research, development-demonstration-diffusion work is exponentially expensive. Second, the number of academics who have any "feel" for, or expertness in, this kind of activity is critically small. Third, D-D-D specialists tend to suffer from status differentials in settings largely dominated by academic research specialists.

In any case, whatever the claims of R&D Centers and labs (and some of them, notably the Wisconsin Center and the Philadelphia Lab, have made some remarkable progress along this line), the overall picture is regrettably inadequate. As will be seen in the following chapter, the centers and labs do not "get there" (or if they do, the school superintendents do not know about it).

What is clear is that both the labs and the centers are increasingly conscious of their obligations to "deliver" research results. A few quotations from interviews validate this conclusion:

> From a Center:
> "The procedure of the Center is to field test, pilot test, and demonstrate so that people can see it as well as read about it."
>
> From a Lab:
> "Five site schools geographically distributed serve as sounding boards for R&D ideas, initial disseminators and schools which provide a relationship with other school districts in the region."
>
> From a Center:
> "The Center is strongly committed to moving its programs into action phases. The Director compares the Center's role to that of the agricultural extension service; it would fail in its mission if it stopped at research alone. The original program of the Center was heavily oriented toward research; this has been reduced to a nearly 50-50 balance between research-development-evaluation and action programs."
>
> From a Lab:
> "The Lab is very much interested in implementation. The second major focus of its work (in addition to testing) is diffusion strategy. This involves building training packages for teachers; teaching principals; building a feedback loop so that one can tell when the package is going sour. By doing this, the Director aims ultimately toward what he referred to as a "mail order diffusion package" which could be used in a situation in which the Lab's output could be widely implemented throughout the country."

In the brief time allotted for the survey, it is difficult to tell how much of the above is rhetoric.

One must conclude that the mandate is there, the will is there; the knowledge, instrumentalities, and funds (by and large) are not.

CHAPTER IV

THE IMPACT AND ATTITUDE SURVEYS

A major part of the investigation was to make an assessment of the attitude of educators and policy makers towards educational research and development, and, the impact of educational research and development on educational policies and practices at the local level.

These two tasks absorbed most of the time and effort of the project staff. They also provided the only quantifiable data -- and the most meaningful new material -- produced during the course of the investigation. When they are tied into the highlights of the interview results, as given in the preceding three chapters, they suggest the direction that should be taken in the educational research and development field.

The data were derived from an Impact Survey and from an Attitude Survey, each of which, with the results, is described below and in Appendices B and C. The data for the Impact Survey came from district school superintendents. Respondents in the Attitude Survey included officials in organizations sponsoring educational research and development, people engaged in such activity, and (in the case of a few questions) the same district school superintendents who were respondents in the Impact Survey.

Very briefly, the conclusions are that the products of educational research and development have had very little perceived effect on educational policies and practices; that sponsors and performers of educational research and development are painfully aware of this, and that all three groups -- users, sponsors, and performers -- believe that steps should be taken towards more near-time relevancy of R&D efforts and towards implementation of R&D results in the classroom.

THE IMPACT SURVEY

A survey was conducted in late 1968 and early 1969 by the Bureau of Social Science Research[1] in order to assess the impact of educational R&D on educational policies and practices at the classroom level. (Appendix B describes the methodology in detail.)

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[1] As was stated in the summary, this survey was made under contract with SURC. SURC takes full responsibility for the interpretation of the results.

The survey was conducted in two stages: a pre-test personal interview survey of superintendents in 55 school districts, followed by a mail questionnaire which was returned by 60% of the 574 district school superintendents to whom it was sent.

The results of returned questionnaires were used (with appropriate statistical procedures as described in Appendix B) as a sample of the 9,000 -- odd school districts with enrollments of 600 to 100,000 pupils, with a total student population of 33.8 million. In spite of the samll size of the sample and the relatively poor response rate, it is considered that the results are valid if they are taken to be measures of general magnitude. For example, when the data show that a certain innovation (Non-Graded Sequencing) has been adopted by 22.5 percent of the nation's school districts, the reader who interprets this to mean "about a fourth" will not be far wrong.

Added to this qualification is the fact that the sample did not include the approximately 10,000 very small school districts with an enrollment of less than 600 or the 26 districts with enrollment of 100,000 or more. Accordingly, when results are generalized to the entire American elementary and secondary school system, some liberty with the figures is being taken.

Data were broken down into six categories of district size (enrollment) and were then blown up, by the method explained in Appendix B, to represent a national projection of the characteristics of the roughly 9,000 districts represented by the sample. The size groupings was as follows:

Student Enrollment (in thousands)	Number of Districts in the U.S.	Estimated Student Population (in Millions)
25-100	149	5.7
12-25	373	5.7
6-12	891	7.1
3-6	1670	6.7
1.2-3.0	3519	6.5
0.6-2.0	2486	2.1
TOTAL	9088	33.8

As might be expected, the smaller school districts displayed less interest in educational research and development than did the larger ones. This is general phenomenon, with sometimes a very wide range between the smaller and the larger districts. The range, and its generally linear progression from small to large, is shown in detail in the tables in Appendix B. For the most part, the tables in this chapter list only the statistical data (projected from the sample to national averages) for the smallest and the largest districts.

The first set of questions put to the superintendents had to do with the extent to which they had introduced into their schools many generally accepted innovations.

1. Initially, the Superintendents were asked whether their districts had adopted any of a list of 17 "new" teaching or staffing practices, and, if so, the extent to which they were in use in the districts. The response to this question is startling. The data below shows the percentage of school districts which have made no use of the named practices, and the minimum number of students without access to them. Many of these "innovations" have been accepted as desirable practice for a number of years, yet only three of them -- teacher aids, ability grouping, and elementary departmentalization -- are used to any extent in more than half of the districts represented by the sample. If data had been gathered with respect to individual schools, rather than with respect to school districts, the nonuse figures would clearly have been higher. It is safe to assume that relatively few districts which reported use of a stated practice have put it into effect in all of the district's schools. Furthermore, as will be seen from the fuller presentation of the data in Appendix B (tables 1, 1a and 1b) a significant proportion of the districts which reported a practice as having been adopted also reported that its use was "limited" (defined as being used by less than 50% of the schools at any grade level). Thus, the figures are a clear understatement of the failure of district shcool systems to adopt the listed practices. The same is true of the figures relating to students without access to the practice. There are, of course, many reasons other than inertia or simple resistance to change which might account for the failure in any given school district to adopt some or any of the listed practices. Some of them are costly, either in terms of personnel or equipment, or both. Some require teaching skills which might not be available. Some might positively be harmful in a given situation. Nevertheless, the fact remains that most of the listed practices are taken for granted as being desirable in a normal situation, as representing advances in educational techniques, and as being something that school systems"ought" to adopt. It is difficult to escape the conclusion that inertia and resistance to change are among the major reasons for the low level of adoption. Whatever the reasons, the data add to the evidence that the American school system responds to change in a very sluggish manner.

Table IV-1

Percentage of Districts Reporting No Use of Selected "New" Practices

Practice	All Districts	Smallest Districts	Largest Districts	Minimum Number of Students without access to practices (millions)
Teacher Aides	30.7	27.1	26.7	9.0
Ability Groupings	37.7	45.8	35.6	11.6
Elementary Departmentalization	42.0	39.6	33.3	a
Team Teaching	62.4	72.9	33.3	16.8
Elementary Resource Teachers	67.7	79.2	33.3	a
T.V. Instruction	62.6	64.6	37.8	17.9
Movable Partitions	69.0	85.4	46.7	18.7
Non-Graded Sequencing	77.5	87.5	33.3	20.4
Independent Study	70.1	85.4	57.8	20.6
Programmed Instruction	74.5	77.1	62.2	22.7
Individually Prescribed Instruction	74.1	75.0	72.2	23.3
Elimination of Letter Grades	75.3	65.4	67.7	23.3
Gaming	83.3	95.8	71.1	25.6
Modular Scheduling	87.8	91.7	64.4	26.5
Variable Course Length	87.0	97.9	73.6	27.1
Middle School	85.5	89.6	82.2	a
Extended School Year	94.7	93.8	91.1	31.7

a - No estimate possible; practice is grade-level specific.

2. Whereas the previous question dealt with new teaching and staffing innovations, the next one had to do with cirriculum changes. In this question, the superintendents were first asked whether their districts, since 1965, had adopted and used extensively any new sets of curriculm materials in each of nine subject areas. The results are summarized in Table IV-2. As was the case above, the data are given in negative form to show the percentage of districts which reported no curriculum change.

Table IV-2

Percentage of District Reporting No Curriculum Change

In Selected Subject Areas Since 1965

Subject Area	All Districts	Smallest Districts	Largest Districts	Minimum Number of Students without access to subject changes (millions)
Science	51.0	81.2	35.6	15.7
Mathematics	56.5	64.5	44.5	17.7
Reading	60.2	64.5	44.5	17.7
English	71.5	83.3	40.0	20.5
Social Studies	76.8	91.6	60.0	21.9
Foreign Language	80.4	83.3	60.0	23.7
Special Education	83.8	89.5	77.8	27.1
Language Arts	88.1	87.5	75.6	27.4
Fine Arts	91.5	93.7	88.9	30.8

Between 50 and 60% of the districts showed no such changes in the subject areas of science, mathematics, and reading. From there on, the percentages rise rapidly, to about 70% in English, over 75% in social sciences, around 80% in foreign languages and special education, and in the neighborhood of 90% in language arts and fine arts. It should be emphasized once again that these are minimum figures when they are translated into numbers of schools or students effected. It is clear that in all subject areas, the curriculum materials offered to the majority of students have not been changed since 1965.

However, a more cheerful perspective may be obtained by looking at the data from the positive side. After all, there have been curriculum changes in 40% or more of the districts in science, mathematics, and reading, in about one-quarter of them in English, and so on. Furthermore, the innovation record of the largest districts is very much better than that of the smallest ones except, perhaps, in the case of fine arts. Over half of the largest districts have changed their curricula in the major problem areas: science (65%), mathematics (55%), reading (55%) and English (60%). In social studies and foreign languages, 40% of the largest districts have introduced new course materials. These are the principal problem areas. And, in all of these areas, a greater percentage of the second largest group of districts (12-/ to 25-thousand students) showed curriculum changes.[1]

One can look at the results either with pessimism or optimism. On the one hand, updated curriculum materials are available at reasonable cost, and the need for them has been advertised widely by educators. Yet their rate of adoption has not been very high, especially among the smaller districts. On the other hand, the time has been relatively short; the use of updated materials in many cases requires updated teaching skills, and the larger districts appear to be moving ahead. The optimistic view is reinforced by other evidence on interest in curriculum change, as shown by the response to questions discussed below.

In appraising these figures, it should be borne in mind that the respondents were asked to report adoption of new curricula since 1965. It is possible that in a number of districts new curricula were introduced prior to 1965, and were not reported. This would lead to an understatement of the current use of modern course materials. However, the direction, if not necessarily the magnitude, of this qualification is offset by the fact that when they are stated positively (adoption) the figures lead to an overstatement of the number of schools and students affected. Similarly, when they are stated negatively (nonadoption) they lead to an understatement.

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[1] The data for all size groups will be found in Appendix B, Table 3.

The question from which the above data were drawn also asked (of those who reported changes in curriculum) the name or type of the programs adopted. The responses were then grouped according to broad categories of programs. The results are shown in Table IV-3.

Table IV-3

Percentage of District Reporting Curriculum Change

Since 1965, by Type of Program

Subject Area	% of all Districts Reporting Change	Principal Type of Program Reported				
		National Programs	Regional Programs	New Materials	New Approach	New Courses
Science	49.0	19.9	4.0	4.6	4.5	7.9
Mathematics	43.5	7.0	0.8	7.3	27.6	3.5
Reading	39.8	2.6	1.0	18.6	11.7	7.5
English	28.5	7.1	1.6	2.9	12.8	4.6
Social Studies	23.2	1.5	4.0	5.8	6.3	9.3
Foreign Language	19.6	1.2	-	3.0	9.5	6.1
Special Education	16.2	0.5	0.8	0.1	4.2	10.4
Language Arts	11.9	0.6	0.6	2.6	5.3	2.0
Fine Arts	8.5	-	0.1	0.4	1.1	6.3

Note: Includes only programs mentioned by 10% or more of the respondents. Some respondents mentioned more than one type of program.

The superficial conclusion is that the so-called national programs are not very well received. This, at first sight, appears to be true in all subject areas with the single exception of science -- where the national programs (presumably, in most cases, those developed under the sponsorship of the National Science Foundation) share about equal popularity with other types of programs. In the remaining subject areas, the preference is clearly for programs which fall into the three rather amorphous categories of new materials, new approach, and new courses.

This should not be taken as conclusive evidence that the national programs are being largely ignored by their target groups. Although there is no evidence from the BSSR survey on this point, the interviews and literature suggest that national programs have been very influential in two respects. First, their very existence has pointed up the need for new material, new approaches, and new courses. And, second, the concepts and teaching methods developed in some of the national programs have, without any doubt, been incorporated into new curriculum programs which would not be classified as "national" ones. This is especially true in the subject areas of science and mathematics. It has been suggested by some that the apparently low acceptance of national programs reflects the reluctance of people who make local school curriculum decisions to accept "packages" *in toto,* no matter what their origins. That is, they want to adapt the "packages" to fit local conditions, to be more in keeping with their own pedagogical experience, to incorporate the best features of several "packages", etc. Many of the national programs are already designed so that modification and adaptation are relatively easy.

3. Finally, under this general heading of innovation, the superintendents were asked to report innovations other than those specifically listed (as shown in the preceding tables) which they had instituted since 1965. In this case, the respondents could list changes in teaching or staffing practices, as well as changes in curriculum. The results are as follows:

   Forty percent of the districts reported such "other" innovations. Again, the largest districts were substantially more innovative than the smallest ones. However, in both size groups, the degree of innovation was not very high in the specific categories mentioned when compared with the degree of innovation in the categories listed earlier. Nevertheless, it is interesting to note that the innovations most frequently mentioned had to do with curricula -- expansion of nonbasic courses and vocational education -- rather than with teaching and staffing practices. The fact that another curriculum related item, preschool, is at the bottom of the list should be discounted: The responses referred largely to Head Start, and do not reflect the very large proportion of Head Start programs that were instituted under other than public school auspices.

Table IV-4

Percentage of District Reporting "Other" Innovations

Adopted Since 1965

Type of Innovation	All Districts	Smallest Districts	Largest Districts
Vocational Education Curricula	11.1	8.3	17.8
Expansion of Non-Basic Courses	11.7	12.5	22.2
Technology	9.0	4.2	17.8
Guidance	7.6	6.3	13.3
Pre-School	7.2	8.3	11.0
Organization of Instruction	9.8	2.1	13.3
No "Other" Changes	61.2	68.8	42.2

Note: Innovations were included only if they were mentioned by 10% or more of the respondents. Some respondents mentioned more than one.

The next set of questions had to do specifically with educational research and development: where the districts obtain their information, and whether the information gets to them in optimum content and form.

1. To begin at the local level: The superintendents were asked whether their current budgets provided funds for educational research and development, and to describe the research and development activities in which their districts were currently engaged.

   In Table IV-5 the results are shown for all district size groups because of (a) the nearly consistent linear relationship between district size, the percentage of districts in the size group engaging in local research and development activities, and the amount of funds budgeted for the purpose, and (b), the very wide spread between the smaller and the larger districts. Roughly two-thirds or more of the districts with over 3,000 students reported some local research and development activity. Two-thirds or more of the smaller districts reported none.

Table IV-5

Research Activity At The District Level, By District Size

District Size (in thousands)	% of Districts Mentioning Research Activities				Median Dollar Figure for R&D[a]
	Curriculum Development	Testing and Evaluation	Organization of Instruction	None	
25 - 100	40.0	20.0	17.8	22.2	$63,800
12 - 25	37.0	13.0	15.2	32.6	25,250
6 - 12	37.9	3.0	18.2	39.4	39,250
3 - 6	34.4	6.3	17.2	35.9	13,350
1.2 - 3	13.7	5.5	9.6	65.8	3,900
0.6 - 1.2	8.3	4.2	-	77.1	1,550
All Districts	19.8	5.6	9.6	58.7	6,300

Note: Includes only research activities mentioned by 10% or more of the respondents. Some respondents mentioned more than one category.

[a] Based on the 141 districts giving a total budget figure.

Although the median local expenditure by even the largest districts can hardly be considered princely, the median expenditure by the two smaller sized groups is so small as to make one wonder whether it is effective at all. However, there is a factor here that might suggest a downward bias in the expenditure figures if they are taken to be a measure of the amount of effort which is, in fact, put into educational R&D by the districts. This is that the question was purposely put in terms of actually budgeted funds in order to discover how well research and development funds survive the annual budget scrutiny. Obviously, they do not survive very well. However, it is quite possible that activities which could qualify as research and development -- especially experimentation with new teaching, staffing, and organizational techniques -- take place without specific budget allotments for the purpose. The data can not show this.

Of the three broad kinds of research activity mentioned, curriculum development is by far the most widespread in all size groups. This is yet another indication of concern with modernizing curricula, at least among the innovation-minded districts. It also reinforces a point made above, namely, that there is a tendency to adapt "packaged" curricula to local needs or tastes. At anywhere near the reported median level of expenditure on all types of research and development, it could hardly be expected that the local districts would be developing entirely new and original curricula. It is more likely that their curriculum development efforts are in the direction of adaptation and modification.

2. The next question to be considered has to do with the sources of research and development information which are most heavily relied on by the superintendents and their staffs. The superintendents were given a list of seven sources and were asked whether they (or their staff) used each of the sources with respect to educational research and development information (a) to some extent; (b) to a great extent, or not at all. Here again the data are shown (in Table IV-6) for all size groups because of some very interesting characteristics. (Note that the figures in the block showing "some use" are inclusive of the figures in the block showing "extensive use", i.e., they cover any use at all, extensive or not).

   The most impressive conclusion to be gathered from this table is that local administrators and educators do try to keep abreast of research and development activities. All of the respondents checked at least occasional use of two or more sources. Many of them checked all seven. It is clear that, by and large, the district school personnel are aware of sources of information about educational research and development. It is equally clear that they prefer (or know more about) the traditional sources: NEA publications, other professional journals, professional meetings, and workshops. The preference for these traditional sources is high in all size groups, and varies almost imperceptibly among size groups.

Table IV-6

Use of Selected Sources of R&D Information, By District Size

	District Size	Percent Using Each Source Listed						
		AERA	ERIC	REL's	NEA	Professional Journals	Professional Meetings	Workshops and Institutes
Some Use	25 - 100	71.1	71.1	80.0	95.6	88.9	93.3	91.1
	12 - 25	54.4	69.6	63.0	84.7	89.1	95.7	95.6
	6 - 12	43.9	54.5	72.7	94.0	83.9	95.5	95.4
	3 - 6	43.7	56.2	76.6	93.8	98.4	93.8	93.8
	1.2 - 3	28.8	35.6	58.9	89.1	87.6	93.2	87.7
	0.6 - 2	22.9	22.9	60.4	83.4	87.5	93.7	89.6
	All Districts	33.2	39.8	64.4	88.8	90.3	93.8	90.5
Extensive Use	25 - 100	13.3	6.7	11.1	37.8	35.6	62.2	57.8
	12 - 25	2.2	10.9	13.0	30.4	50.0	67.4	63.0
	6 - 12	3.0	3.0	9.1	27.3	34.8	59.1	53.0
	3 - 6	3.1	3.1	4.7	18.8	32.8	54.7	50.0
	1.2 - 3	-	1.4	8.2	9.6	20.5	50.7	42.5
	0.6 - 2	-	-	14.6	16.7	20.8	47.9	35.4
	All Districts	1.2	2.0	9.6	16.3	25.7	52.4	44.1

Note: The figures in the block showing "some use" include the figures showing "extensive use".

However, when extensive use of the traditional sources is considered, a marked preference for meetings and workshops, as opposed to NEA publications and other journals is found. The respondents do not like to read as much as they like to talk and discuss. Also, there is a familiar progression from the smaller districts to the larger ones. Personnel in the larger districts attend more meetings, participate in more workshops and read more in the Journals than do the educators from the smaller districts.

As sources of information, the AERA publications and the output of the ERIC system are significantly less popular (or less known) than the traditional ones, with the reports and other publications from the regional laboratories falling somewhere in between. Nevertheless, some use, and hence awareness, of these sources is fairly high among the larger districts. With respect to AERA and ERIC, the percentages fall rapidly as the district size becomes smaller.

It should be expected that these three sources should be used at the district level on a smaller scale than the more traditional ones. The AERA publications are, by and large, somewhat esoteric, with an appeal more to the research community than to the practitioners. The ERIC system is new, and forbiddingly cumbersome to the uninitiated. And the regional laboratories, besides being new institutions, are specialized. Nevertheless, the very small percentage of districts which report extensive use of them is surprising.

The final set of questions elicited opinions about educational research and development.

1. Over half the districts suggested ways in which the results of educational research and development activity could be made more useful (Table IV-7). By far the most frequently mentioned was wider dissemination of research and development results. However, taken as a whole, the six general categories of suggestions add up to one. It is not only wider dissemination that is wanted, but better dissemination, which includes more workshops and seminars; reports that are more readable and better screened prior to dissemination, and more demonstration projects -- all aimed towards implementation.

Table IV-7

Suggestions for Increasing Usefulness of R&D Results
(Percentage Of Districts Mentioning Each Item)

Suggestion	All Districts	Smallest Districts	Largest Districts
Wider Dissemination	22.8	22.9	33.3
Emphasis On Implementation	12.7	6.3	22.2
Workshops, Seminars	11.3	6.3	22.2
More Readable Reports	8.6	8.3	22.2
Better Screening of Reports	5.1	-	4.4
Demonstration Projects	5.1	-	4.4
No Suggestions Made	47.5	58.3	28.9

Note: Suggestions are included only if mentioned by 10% or more of the respondents. Some respondents made more than one suggestion.

It should be noted that the superintendents did not mention (in sufficient numbers for tabulation) such criteria as scholarly excellence, validation of results prior to implementation, or even relevance. Perhaps they consider these qualities to be present automatically.

2. Table IV-8 shows the disappointing results obtained when the superintendents were asked to identify products of recent and ongoing research and development that had, or will have, widespread influence on school practices. Only 35% of the respondents names any

Table IV-8

Major Areas of Ongoing R&D Considered Important
(Percentage of Districts Mentioning Each Area)

Area Of R&D	All Districts	Smallest Districts	Largest Districts
Educational Technology	15.2	10.4	31.1
Organization of Instruction	13.8	6.3	20.0
New Basic Curricula	9.9	8.3	20.0
Staff Utilization	6.0	0.0	20.0
Learning Process	4.3	2.1	15.6
None Mentioned	64.0	77.1	28.8

Note: Areas of R&D were included only if they were mentioned by 10% or more of the respondents. Some respondents mentioned more than one.

such products and, in most cases, they were mentioned in very general terms.[1] Among the largest districts the response was considerably better than the average, but for all other size groups the response rate was much lower than might be expected from well-informed educators.

3. If the superintendents found difficulty in pinpointing the contribution of recent and ongoing research, they were more articulate when it came to expressing what they want. The final question in this set asked for a listing of the kinds of research

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[1] The raw data (not tabulated) indicate that less than 15% of the respondents mentioned products of specific research programs, and these ranged from the generality of "Curricula developed by the National Science Foundation" to the particular of "Individually Prescribed Instruction researched at Pittsburg".

and development which would be most helpful in meeting district needs. Positive responses were received from over 60% of the districts (and 80% of the largest ones). The desire for new curriculum material is very marked. If the categories of general curriculum, specific curricula and individualized instruction are combined, nearly a third of the suggestions for research help are in the curriculum area. The need for research leading to more effective teaching ranks even higher.

Table IV-9

Major Areas In Which Additional R&D Is Needed
(Percentage Of Districts Mentioning Each Area)

Area Of R&D	All Districts	Smallest Districts	Largest Districts
Organization of Instruction	16.4	8.3	17.8
General Curriculum	13.8	6.3	11.1
Role of Teacher	11.9	2.1	22.2
Learning Process	12.4	10.4	31.1
Needs of Special Groups	10.6	6.3	26.7
Educational Technology	7.3	4.2	6.7
Specific Curricula	7.2	8.3	11.1
Individualized Instruction	7.2	4.2	11.1
None Mentioned	42.8	56.3	20.0

Note: Areas of R&D were included only if they were mentioned by 10% or more of the respondents. Some respondents mentioned more than one.

THE ATTITUDE SURVEY

The methodology of the Attitude Survey, its limitation, and the full statistical results will be found in Appendix C.

This survey was conducted in conjunction with the personal interviews underlying the material in the previous three chapters. A questionnaire was given to each of the interviewees, asking them to respond to a series of 35 propositions about various aspects of educational research and development, indicating on a scale of 1 to 6 the intensity of their agreement or disagreement with the propositions. The intensity of agreement or disagreement of each group of respondents to each proposition was then expressed as a weighted score, as is explained more fully in Appendix C. The weighted scores (which are given in footnotes in the following pages) can be read roughly as follows:

Plus 3 to minus 3:	Neutral
Plus 4 to plus 25:	Agreement
Minus 4 to minus 25:	Disagreement
Plus 26 to plus 50:	Strong agreement
Minus 26 to minus 50:	Strong disagreement
Above plus 50:	Very strong agreement
Below minus 50:	Very strong disagreement

Altogether there were 75 respondents divided into three groups in accordance with primary affiliation as follows: universities (31); research and development centers and regional educational laboratories (26); and government agencies and foundations (18). In what follows, these groups will be referred to simply as universities, centers, and sponsors. Ten of the 35 propositions were also put to 342 District School Superintendents in connection with the Impact Survey.

The most interesting findings are summarized below. It should be noted that the propositions were not put to the respondents in the order given below, nor in the order shown in Appendix C. Rather, the propositions in the original questionnaire were arranged randomly so that the connection between related questions would not be evident to the respondents.

The responses, as a whole, show an overwhelming approval of educational R&D as being a positive contribution to progress in the field of education. In fact, the response to one proposition -- that continuing R&D is crucial to the progress of American Education[1] -- was so overwhelmingly positive as to show that it need not have been put to such a selected population of respondents. Only two percent of the respondents registered any degree of disagreement, and 78% checked agreement on the highest point of the scale. A similarly enthusiastic endorsement of educational R&D is shown by the rejection of the proposition that, from the researcher's, present levels of R&D funding are adequate.[1] Only seven percent of the respondents agreed; 54% disagreed at the highest point on the scale, and 31% disagreed at the next highest.

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[1] Appendix C, Question E1. The weighted scores were: Universities plus 86; Centers plus 95; Sponsors plus 84.

This is not a surprising result. All of the respondents were connected in one way or another with educational R&D. In most cases, such activity was their most important professional work. This group of respondents could not be expected to display a negative attitude.

However, they freely expressed reservations as to whether or not educational R&D effort was approaching its potential as well as it should, especially in terms of getting the R&D results put into practice.

The respondents were clearly concerned about moving R&D results from the laboratory into the schools, but they (especially the sponsors) were doubtful about the capacity of the current R&D structure to do the job adequately.

1. All three groups -- universities, centers, and sponsors, expressed very strong agreement with the proposition that effective implementation of R&D output is a pressing need.[2] Indeed, the intensity of agreement was almost as high as that on the proposition, cited above (that continuing R&D is crucial to the progress of American education), and was comparable to the intensity of disagreement on the proposition about the adequacy of R&D funds. And, in this case, there is no reason to suspect occupational bias.

2. There was less, but still impressive agreement by all groups on the related proposition that dissemination is the most overlooked aspect of R&D.[3] Sponsors were more emphatic in their agreement than the

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[1] Appendix C, Question C1. The weighted scores were: Universities minus 68; Centers minus 71; Sponsors minus 74.

[2] Appendix C, Question D2. The weighted scores were: Universities plus 71; Centers plus 79; Sponsors plus 76.

[3] Appendix C, Question D3. The weighted scores were: Universities plus 29; Centers plus 30; Sponsors plus 50; Superintendents plus 50.

universities and the centers. This was one of the 10 questions put to superintendents; they were lined up with the sponsors. In this connection, there was evidently some confusion as to the precise meaning of "dissemination"; evidently the superintendents took it to mean something like "get the word out in such form that we can use it". The Impact Survey supports this interpretation.

3. There was also agreement by all groups on the proposition that R&D should be re-tooled so as to be more responsive to the needs of the ultimate consumers of R&D output.[1] The intensity of agreement by the sponsors was very much stronger. At this point, it should be noted that throughout the responses a considerable more critical attitude towards R&D is displayed by the sponsors than by the other groups, a phenomenon which will be discussed further at a later point.

4. Another consensus -- this one being negative -- appeared on the proposition that the primary focus of R&D should be on theoretical work rather than on application.[2] The disagreement was very strong, with somewhat less intensity of disagreement being shown by the universities than by the other groups. As a matter of fact, the intensity of expression of this question for all respondents taken as a whole was the fourth highest among all of the 35 questions. It might be argued that, in the minds of some respondents, the proposition called for a choice between basic and applied research, while others thought of "application" as meaning something close to "implementation". This possibility is not important: there is a clear preference for activity which goes along the road to the classroom.

With respect to the above four propositions, all groups responded in the same direction and with roughly comparable degrees of intensity. On the following additional propositions, the views of the universities and centers were somewhat divergent from those of the sponsors.

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[1] Appendix C, Question C5. The weighted scores were: Universities plus 20; Centers plus 26; Sponsors plus 53.

[2] Appendix C, Question D7. The weighted scores were: Universities minus 44; Centers minus 77; Sponsors minus 60; Superintendents minus 67.

5. The Universities and the Centers were in mild disagreement with the proposition that it would be difficult to justify the R&D network in terms of actual impact on the educational system.[1] The sponsors were in very strong agreement with the proposition, showing a remarkable diversity of opinion from that of the universities and the centers. The superintendents were in mild agreement with the sponsors. Their response to this proposition is in contrast to the results of the Impact Survey.

6. Putting the same proposition in a slightly different way: that R&D output significantly influences American education,[2] the universities and the centers were consistent with their response to the previous proposition. They agreed, midly, as did the superintendents. The sponsors again took issue with the others, registering relatively strong disagreement. The intensity of disagreement with the proposition is not nearly as important as the fact that such disagreement exists.

7. On the other hand, the universities and sponsors strongly disagreed with the proposition that the majority of significant educational innovations can be directly linked to specific R&D undertakings.[3] The centers and the superintendents were neutral on this point. The apparent contradiction to agreement (except by the sponsors) that R&D significantly influences American education can probably be explained by the words "majority", "directly", and "specific". It is generally accepted that most innovations have indirect linkages to nonspecific origins, and that many of the origins are unrelated to research in the usual sense. Thus, one can agree with the first proposition and reject the second, or reject both of them for different reasons.

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[1] Appendix C, Question D6. The weighted scores were: Universities minus 13; Centers minus 17; Sponsors plus 58; Superintendents plus 11.

[2] Appendix C, Question D1. The weighted scores were: Universities plus 13; Centers plus 19; Sponsors minus 24; Superintendents plus 14.

[3] Appendix C, Question D8. The weighted scores were: Universities minus 37; Centers minus 1; Sponsors minus 41; Superintendents minus 1.

8. The next proposition to be noted here is that the recent proliferation of R&D activities is in response to a felt need and is serving that need in a more than satisfactory fashion.[1] The universities agreed, strongly. The centers went along with the universities, but with less enthusiasm. However, the sponsors disagreed. This hints at sponsor frustration.

9. And finally, in this set, there is the proposition that a sweeping renovation of R&D is overdue.[2] Here, the universities and centers were in very mild disagreement -- verging on neutrality. So also were the superintendents, but slightly on the positive side. The sponsors once more showed consistency with their position on other propositions. Their agreement with the proposition was strong. The results here are in the same general direction but with a lesser degree of intensity as the results to the proposition cited above in Item 4 that retooling is required in order to meet the needs of ultimate consumers of R&D.

From the above, it is fair to conclude that the respondent groups are dissatisfied with the present organization and effectiveness of educational R&D. Where do they think the weaknesses lie (except for their nearly unanimous opinion that funds are inadequate)? To some extent, they point to the researchers:

1. "Most researchers are more interested in refining their research than in seeing project results further on the road to implementation."[3] Everyone agrees, the centers more stronly than the universities, and the sponsors more strongly than both. The superintendents (who are hardly in a position to make a sound judgment on this point) also agree strongly. The implications here are not entirely clear. Perhaps some of the respondents, although favoring some means of getting project results further on the road to implementation, believe that this is not the researcher's job. The interview

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[1] Appendix C, Question E2. The weighted scores were: Universities plus 33; Centers plus 20; Sponsors minus 20.

[2] Appendix C, Question E7. The weighted scores were: Universities minus 6; Centers minus 4; Sponsors plus 42.

[3] Appendix C, Question D4. The weighted scores were: Universities plus 15; Centers plus 41; Sponsors plus 50; Superintendents plus 44.

results reported in earlier chapters bear out this possibility. Nevertheless, there is an aura of fault-finding with the researchers.

In some cases if blame has to be assessed, it probably should be shared by the researchers and the sponsors.

2. *Does the structure of R&D create a pseudo-researcher whose talent is grantsmanship?*[1] The universities agree, but only mildly, the centers disagree very mildly, but the Sponsors agree strongly.

3. *All three groups agree that R&D efforts are too much directed to problems of today and yesterday, instead of to foreseeable problems of five or 10 years from now.*[2] The agreement by universities, centers and superintendents is not strong, but agreement by the sponsors borders on very strong. This is a considerable criticism. Certainly the researchers are wasting their time (so far as impact on education is concerned) if they do not look ahead to *foreseeable* needs, and the sponsors are supporting potentially useless activity. Note that the proposition does not rule out consideration of today's problems if it can be foreseen that much the same problems will exist in the future if something is not done about them. It simply rules out an uncritical projection of the present into the future.

In a larger number of cases, the blame can be laid more squarely on the sponsoring agencies who, after all, have some responsibility for the effects produced by their management procedures and decisions affecting the allocation of resources. Attention is drawn again to the fact that the sponsors are generally more critical than the other groups.

4. *All groups agree that in general R&D resources are channeled to an elite few.*[1] The sponsors agreeing slightly (but not significantly) more than the others.

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[1] Appendix C, Question B4. The weighted scores were: Universities plus 14; Centers minus 6; Sponsors plus 46.

[2] Appendix C, Question E8. The weighted scores were: Universities plus 17; Centers plus 17; Sponsors plus 45; Superintendents plus 11.

[3] Appendix C, Question A2. The weighted scores were: Universities plus 16; Centers plus 13; Sponsors plus 20; Superintendents plus 24.

5. On the other hand, the universities and the centers disagree with the related proposition that personal connections play too large a part in the allocation of R&D resources.[1] The disagreement by the centers is stronger than that of the universities. However, the sponsors again dissent from the others. They agree, which again shows consistency with their opinion that resources are channeled to an elite few.

6. The widest discrepancy of opinion among the three groups was on the proposition that R&D suffers greatly from a lack of direction.[2] With considerable capacity to provide direction (through the allocation of funds) the sponsors agreed strongly. The universities agreed mildly, but the centers clearly disagreed, perhaps because they see their own direction from their terms of reference.

7. As to the proposition that the management of R&D resources apparently follows no identifiable strategy,[3] the universities and the centers disagreed mildly, while the sponsors showed rather strong agreement.

8. All three groups agreed that in many cases R&D support is the matter of being in the right place at the right time.[4] Agreement by the sponsors and the universities was strong, with the sponsors agreeing with significantly more force than the universities. Agreement by the centers was weak; their attitude was almost neutral.

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[1] Appendix C, Question A6. The weighted scores were: Universities minus 14; Centers minus 30; Sponsors plus 8.

[2] Appendix C, Question E6. The weighted scores were: Universities plus 8; Centers minus 23; Sponsors plus 44.

[3] Appendix C, Question A7. The weighted scores were: Universities minus 9; Centers minus 9; Sponsors plus 26.

[4] Appendix C, Question A5. The weighted scores were: Universities plus 29; Centers plus 4; Sponsors plus 41.

9. Perhaps the most relevant proposition in this series is that the ultimate value of specific research proposals is seldom heavily weighted in the process of selection and allocation of support.[1] The universities and the centers disagreed, but not with much intensity, while the sponsors were neutral. One wonders what the response would have been if the proposition had been couched in positive terms and in a normative sense, e.g., the ultimate value of specific research proposals should be heavily weighted in the process of selection and allocation of support.

The responses to the above 20 propositions were selected because they illustrate four principal conclusions, namely, (a) that as a group, the respondents hold very strongly to the position that educational research and development is important to progress in the education field; (b) that they believe the output is falling considerably short of making its potential impact on the educational community at the classroom level; (c) that in order to increase the effectiveness of research and development activities, they would place more emphasis on dissemination and implementation of research and development results, and (d) that they would like research and development activities to be directed more than is now the case to the solution of perceived classroom problems.

These conclusions are consistent with the findings of the Impact Survey as shown in the first part of this chapter. Together, the two surveys imply the direction of change which would be most useful to the people in charge of teaching and most acceptable to the research and development community. The strongest implication, of course, is that research and development efforts should be considerably more action-oriented.

Another inescapable conclusion (at least so far as the data represents the facts) is that the sponsors, as a group, are much more critical than the other groups of the effectiveness of research and development as it is now organized and directed. They believe more strongly than the other groups that research and development efforts fail in the delivery and implementation aspects. They are less satisfied than other groups with the allocation of research and development resources. And they are considerably less satisfied than the other groups with the use of research and development resources.

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[1] Appendix C, Question Al. The weighted scores were: Universities minus 21; Centers minus 10; Sponsors plus 3.

It could be inferred from this that the sponsors are falling down on their job -- since they control the funds, and therefore have a great deal to say about how the funds should be used. However, this would be an incorrect inference. It should be remembered that the respondents in the sponsor group were representatives of individual sponsoring institutions, and the questions were put to them with respect to research and development activity as a whole. Furthermore, corrective actions that any one of the institutions alone could take are limited either by the terms of legislation (or foundation charter) or by the relatively small amount of funds under control of the individual institution.[1] A more valid inference is that the Sponsors, as a group, see the problem from a broader perspective than do the people (again as a group) in the universities and the centers, and feel more strongly that there is a need for reform.

In the text above there were cited only 20 of the 35 propositions covered by the Attitude Survey. The other 15 were either of marginal significance, or were not readily classifiable for purposes of exposition. These 15 propositions, together with identification of the question number (Appendix C) and the weighted scores are as follows:

> R&D resources should be more evenly spread within the educational community. (Question A3. Weighted scores: universities minus 49; centers minus 41; sponsors minus 13.)
>
> R&D funding should be primarily a function of a well defined hierarchy of priorities. (Question A4. Weighted scores: universities plus 17; centers plus 45; sponsors plus 32.)
>
> A major R&D shortcoming is a lack of structure which would insure feedback of results. (Question B1. Weighted scores: universities plus 32; centers plus 33; sponsors plus 68; superintendents plus 51.)
>
> Differentiation of the terms "research" and "development" is simply one of example of the bureaucratic red-tape which strangles the researcher. (Question B2. Weighted scores: universities minus 49; centers minus 46; sponsors minus 18.)

---

[1] These limitations apply with much less force to the research and development activity sponsored by the Office of Education.

R&D sponsors should forcefully encourage close communication among researchers doing related work. (Question B3. Weighted scores: universities plus 50; centers plus 39; sponsors plus 34.)

Within R&D, there appears to be a tendency to "ride an old horse to death" rather than to "seek a new mount". (Question B5. Weighted scores: universities minus 20; centers minus 10; sponsors plus 21; superintendents plus 4.)

The decision-making process within R&D is in the hands of a few very powerful individuals. (Question B6. Weighted scores: universities minus 12; centers plus 8; sponsors plus 10.)

In general, R&D funding agencies (sponsors) are responsive to the needs of the researcher. (Question C2. Weighted scores: universities minus 1; centers plus 11; sponsors plus 3.)

In order to secure R&D support, the researcher must generally resort to trade-offs or labeling of one form or another. (Question C3. Weighted scores: universities plus 21; centers plus 5; sponsors plus 20.)

Most R&D sponsors are inflexible and, hence, once funding has been obtained, researchers are unable to incorporate desirable innovations or changes in research design as the project proceeds. (Question C4. Weighted scores: universities minus 25; centers minus 46; sponsors plus 6.)

Individual researchers reflect little more than financial allegiance to sponsoring agencies. (Question C6. Weighted scores: universities minus 21; centers plus 4; sponsors plus 10.)

Individual projects and investigators are granted so much autonomy that effective monitoring of the overall impact of R&D is impossible. (Question D5. Weighted scores: universities minus 31; centers minus 14; sponsors minus 3.)

The majority of R&D projects may be classified as "flash-in-the-pan" operations. (Question E3. Weighted scores: universities minus 29; centers minus 40; sponsors plus 2.)

For decision-making purposes, it is useful to categorize R&D activities in terms of research, development, dissemination, diffusion, and training. (Question E4. Weighted scores: universities plus 44; centers plus 26; sponsors plus 49.)

Due to wide-spread over-lap of efforts, the R&D network represents a tremendous waste of resources. (Question E5. Weighted scores: universities minus 29; centers minus 48; sponsors plus 8.)

CHAPTER V

CONCLUSIONS AND OBSERVATIONS

The purpose of the study undertaken by SURC and reported here was to review the state of research and development in education in the United States. The limited scope of the investigation does not make it possible to use these findings to modify strategy or to develop new ones for the future. Much has been learned about how people -- sponsors, performers and users -- feel about educational R&D at a particular point in time, but very little about why they feel the way they do or whether they would feel the same a month or a year later.

In consequence, this is a status report which, if it is to serve the ends of policy formulation, must be coupled with past and future surveys to reveal trends in perception and attitude among the three claimant groups.

Educational research and development is alive and evolving in the United States, but measured against the need, it can hardly be defined as "well". It enjoys no great popularity among those it is designed to serve. This, along with continuing low-levels of funding, adds up to a serious problem.

There is certainly no national strategy for educational R&D. The collectivity called educational R&D is, in fact, an abstraction representing quite diverse, decentralized and unrelated scholarly enthusiasms in universities, R&D Centers, Laboratories, and various and sundry private organizations. Many of the recent innovations identifiable in American schools seem to have come about because of political or scholastic fears and fads rather than as a result of conscious and systematic R&D efforts.

That change takes place in American education, and that some of this change may be attributable to the work of specialists in educational research and development, goes without saying. But, there is little in the field of education that permits the organization of talent around the accomplishment of a single, over-arching mission -- like NASA's first moon shot. Educational goals are set pluralistically. They are diverse, sometimes contradictory and often difficult to articulate. Frequently, they are lacking in fixed standards or in recognized instruments of evaluation. It is, therefore, difficult to identify, let alone measure, the full impact of the roughly $250 million a year spent from public funds on educational R&D in this country.

On the positive side, the shift in strategy by the Bureau of Research from classic scientific inquiry to programmatic approaches which focus on pertinence rather than long-range relevance, and which emphasize the transfer of knowledge as a necessary corollary of its development, is of relatively recent origin. Much of the undercurrent of rejection expressed in the attitude-and-impact surveys is probably related to the old approach and may largely disappear as the results of new programs move out into the field.

The attitude survey reveals that the problem of dissemination is troubling sponsors, performers, and users alike. The common viewpoint is that techniques for information transfer are still inadequate in spite of the success of ERIC, the Centers and the Laboratories.

Additional conclusions which the study produces are summarized by chapters in the following, as an aid in recalling the detailed substance of the report.

Introduction and Chapter I. Federal government agencies are the dominant forces in educational research and development. State agencies sponsor a limited amount of research and the amounts of funding vary widely among the states.

There are substantial R&D efforts in agencies other than USOE but such programs are secondary and generally tailored to meet the requirements of primary programs. It is unfortunate that the results of such research are not made available to the schools and public on a systematic basis.

The new cohesive strategy of sponsoring programmatic research and improving dissemination adopted by the Bureau of Research on the recommendation of its Research Advisory Council has been welcomed by sponsors, performers and users alike. One of the continuing difficulties in dissemination is the belief of the academic community that such work is not their responsibility. While the importance is acknowledged, the academician sees it as the responsibility of others. ERIC, and to a lesser extent the Centers and Laboratories, have achieved some success in this endeavor.

Research and development conducted by state departments of education vary both in basic interpretation of the purposes and processes of research and in the method of support. Further detailed study of ways to improve research sponsored at the state level is warranted, but a preliminary conclusion is that opportunities for cooperative research at the laboratory level are being neglected. There is a need for greater cooperation, especially on Title I and Title III projects.

Chapter II. Private foundations play a secondary role as a source of educational research and development funding, sponsoring an estimated $15 to $20 million compared to over $150 million dollars by the Federal government. They are important, however, because they tend to support programs of relatively high risk, are less inhibited about subject matter than the government, and are more willing to sponsor outright experimentation.

In general, private foundations do not budget for educational research and development as a specific interest. They give their support in broader classifications such as race relations, urban studies or aid to education.

Chapter III. Universities, because of faculty independence, do not engage in programmatic educational research and development to a significant degree.

Research and Development Centers and Regional Laboratories tend to work in the middle ground between pure project orientation and a fully programmatic approach. While USOE favors the latter, the Centers and Laboratories are not, as originally planned, sufficiently multidisciplinary in personnel or interdisciplinary in philosophy to conform to legislative intent -- at least as interpreted by top staff in the Executive Office of the President. There is heavy emphasis on backgrounds in education and psychology among the members of such agencies. The laboratories seem somewhat more rounded in talent than the centers.

Chapter IV. On most matters brought up in the impact and attitude survey, sponsors, performers or users seemed to have great difficulty in forming and holding opinions. They not only disagreed on a group-to-group basis, but given essentially the same question in varying forms each group shifted its position in response to various phrasings of the question.

In general, the conclusions are that:

1. On the whole, the respondents support the position that educational research and development is important to progress in education;

2. They believe that the output is falling short of fully realizing its potential impact on the educational community at the classroom level;

3. They would place more emphasis on dissemination and implementation of research and development results, and

4. They favor activities which are directed more than is now the case, to the solution of perceived classroom problems.

APPENDIX A

THE SURC INTERVIEW SCHEDULE FOR R&D CENTERS, REGIONAL LABS, UNIVERSITIES, AND STATE DEPARTMENTS OF EDUCATION

Instructions to Interviewers App A-1
The Interview Schedule App A-4

LISTS OF INSTITUTIONS WHERE INTERVIEWS WERE CONDUCTED, AND NAMES OF RESPONDENTS

Non-Federal Institutions App A-11
Federal Institutions App A-15

GENERAL INSTRUCTIONS TO INTERVIEWERS

A. Syracuse University Research Corporation, through its newly formed Policy Institute, is conducting a survey of Educational Research and Development in the United States. The end product of the survey will be a report to the U.S. Office of Education for consideration by that Office in the preparation of a briefing document for the Organization for Economic Cooperation and Development in Paris.

The focus of the survey is on the management of both financial and professional resources devoted to Educational Research and Development in universities, centers, and other American institutions.

We are interested in exploring two basic questions:

a. What is the nature of the decision-making process within the R&D complex with respect to the allocation of total resources (funds, manpower, facilities, etc.), and

b. What has been the actual, or what is the potential, impact of R&D endeavors on educational policies and practices at the "consumer" (e.g., classroom) level?

B. The total survey will cover several levels of institutions (and the people associated with them) which play a role in determining the content and direction of educational research and development -- and the interaction among them. These levels break down, roughly, into three:

1. The sponsors: these are principally the Federal government, and the Foundations.

2. The performers: these are the institutions (and the people in them) which actively engage in research and development work.

3. The consumers: these are the institutions which actually engage in instruction or educational programs. They are, of course, overwhelmingly school systems and institutions of higher education. Their relevance to research and development activities is two-fold: (a) in their receptivity to research and development results, and (b) in their capacity to influence research and development activities by sponsors and performers through articulating the need for new knowledge about educational techniques.

You will be dealing with, and reporting about, the middle group -- the performers. The sponsors and consumers, along with some other groups in the network, are the subjects of separate studies.

C. The institutions to be covered by the "performer" segment of the survey -- the segment that you are concerned with -- vary considerably in management structure, purpose, and outlook. They include the research components of university schools of education, other departments in universities, R&D centers, regional educational laboratories, state departments of education, and some miscellaneous institutions. Accordingly, your first problem is to fill out Interview Schedule I. Among other things, in this schedule you will describe and categorize the institution whose personnel you are interviewing. You can, and should, get much of this information prior to the actual interview, so that you will not enter the interview cold.

D. Interview Schedule II is the heart of the exercise. It contains questions which, so far as possible, were designed to fit the modality of the structures, etc., of the subject institutions. However, in contrast to the rigidity of the questions in many interview schedules, these need not be adhered to exactly. Because of the variations in institutional structure, there may be cases in which the exact phrasing of a question is not suitable, or where a question should be eliminated entirely. Also, the course of the interview may be such that the order of the questions should be changed. Use your own judgment on these points. However, it is important that all of the questions in this schedule (as well as in Schedule I) be accounted for in your report, even if the accounting is simply a statement such as "Question eliminated because...."

It is essential that you be thoroughly familiar with this questionnaire prior to the interview. Pay particular attention to the notes following each question; they are designed to be guides for you.

Additional interviewing instructions are attached to the schedule.

Special Instructions for Schedule II*

E. We are not providing space for you to record answers on the interview schedule itself, mainly because so much blank space would add bulk to the formidable looking mass of papers in your hands, and this might initially alienate many respondents. Make your notes on a separate pad. If possible, and if the respondent agrees, use a cassette type tape recorder, and send the cassettes to us after you have finished with them. We will pay you for the cassettes, of course.

F. Many respondents will give you material of one sort or another as part of the reply to some of the questions. When you are finished with this material, please send it on to us.

G. Please note the following:

1. Some institutions have many functions besides educational research and development. Notable examples are university schools of education and state education departments. In such cases we are interested only in the educational research and development function.

2. We are interested only in research and development which has, or can be expected to have, a bearing on educational policies and practices. Specifically, we are not interested in "operational" or "record keeping" research concerning such matters as the adequacy of the tax base for school financing, forecasts of student populations, rates of teacher turnover, etc. This caveat is particularly relevant to state education departments and to some independent institutions such as the Educational Testing Service. (However, we are interested in knowing if an institution considers this "operational" research to be an important priority.)

3. Some respondents might say that they have already sent us a mass of material which contains answers to some of the questions you will ask. In many cases this will be true. Please explain that this material was requested in connection with another segment of this project, that it is in use, and that it could not (physically) be made available to you. Apologize on our behalf for the apparent duplicating or overlapping, and try to leave feelings unruffled.

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*For R&D Centers, Regional Laboratories, Universities, and State Departments of Education.

4. Please emphasize to your respondents that this is not an official U.S. Government survey. It is a survey being made for the U.S. Office of Education, and not by the U.S. Office of Education. The distinction may seem not to be significant but for various and complicated reasons it is a very important distinction to the U.S. Office of Education.

INTERVIEW SCHEDULE II

Questions

QUESTION 1.

PLEASE DESCRIBE ONE OF YOUR REASONABLY TYPICAL EDUCATIONAL RESEARCH OR DEVELOPMENT PROJECTS.

Notes to Interviewers:

1. Record briefly the description of the project. Seek answers to the following questions:
   a. How was the project initiated?
   b. Whose idea was it?
   c. How was the project funded (how did you get the money, and from whom)?
   d. Were you invited to take it on by a sponsor, or did you have to "sell" it?
   e. How were members of the project staff selected?
   f. What major obstacles did you encounter?
   g. To what extent have results stimulated further research and development activity?
   h. What have been the feedback results?
2. We have asked for a description of a "reasonably" typical project. In what respects is this one not typical?

QUESTION 2.

ASSUMING A PROJECT WHICH HAS BEEN "PROVEN OUT" IN BOTH THE RESEARCH STAGE AND THE DEVELOPMENT STAGE, WHAT DO YOU SEE AS THE SUBSEQUENT STEPS TOWARDS IMPLEMENTATION IN THE SCHOOLS?

Notes to the Interviewers:

1. Try here to determine the institutions's concern with carrying its research results through to the ultimate consumer.
2. Would the Institution actively push implementation?

QUESTION 3.

WHAT ARE THE MAJOR AREAS OF RESEARCH CONCENTRATION WITHIN YOUR R&D PROGRAM?

Notes to the Interviewers:

1. Delineate the areas in general terms.
2. Determine approximate resource allocation (funds and people) to each area. Accept such terms as "major" down to "peripheral" or "marginal."

QUESTION 4.

WHAT FORMAL CONSTRAINTS (IF ANY) ARE THERE TO ADDING NEW AREAS, OR TO SHIFTING EMPHASES?

Note to Interviewers:

This question is especially important for institutions which depend on sustaining funds tied to prescribed terms of reference. Institutions very often manage to wriggle out of the prescribed constraints. We want to know what freedom of action the institution actually has, in spite of the existence of formal constraints.

QUESTION 5.

WHERE DO YOU GET THE GUIDELINES FOR DETERMINING THE AREAS OF EMPHASIS WITHIN THE PROGRAM?

Notes to Interviewers:

1. Caution: be careful on this question. The respondent might be setting the guidelines himself, and might resent the question. But ----

2. Seek out, in terms of title or position, specific individuals, internal committees, advisory groups, consultants, etc.

3. In some cases the true answer will be that the areas of emphasis will be determined by contracts, grants, etc., which just happen to fall to the respondent's institution.

4. Also, try to determine the relative importance of internally generated and externally "invited" projects.

QUESTION 6.

WHAT KINDS OF INTERNAL AND EXTERNAL CONSIDERATIONS, OTHER THAN THE FORMAL ONES, AFFECT YOUR INSTITUTION'S KEY DECISIONS ABOUT MAJOR AREAS OF EMPHASIS AND ABOUT TAKING ON NEW R&D ACTIVITIES?

Notes to Interviewers:

Examples of such considerations:

Internal: Staff interests, space, personnel.
External: Peer groups or sponsors, financial support.

QUESTION 7.

WITHIN YOUR MAJOR AREAS OF INTEREST, WHAT GROUPS WITHIN THE EDUCATIONAL COMMUNITY WOULD YOU IDENTIFY AS TARGET AUDIENCE OR CONSUMERS OF YOUR R&D ACTIVITY?

Notes to Interviewers:

1. Identify any number of classification of target audience or consumers with each area of interest.

2. If more than one category of target audience or consumer is identified for a particular area of activity, attempt a rank order.

   Example:

   Area of interest: Language instruction

   Consumers:
   a. Non-English speaking minority groups
   b. Secondary school level
   c. Adult education
   d. Elementary school level

   Area of interest: Individualized instruction

   Consumers: All levels

QUESTION 8.

WHAT ARE THE MAJOR SOURCES OF YOUR FINANCIAL SUPPORT?

Notes to Interviewers:

1. Try to get approximate distribution over the past five years or so, with sources identified according to the following categories:

   a. Own funds or appropriations.
   b. Federal government (agency or agencies, if pertinent).
   c. Foundations.
   d. Industry.
   e. Other.

2. Try to establish a trend.

QUESTION 9.

DO YOU HAVE STANDARD PROCEDURES FOR OBTAINING FINANCIAL SUPPORT FROM EACH OF SEVERAL SOURCES WHICH FUND YOUR OPERATION? IF SO, PLEASE DESCRIBE THEM.

Notes to Interviewers:

1. Among the various sources would be:

   a. Departmental budgets (Universities and possible state departments of education).
   b. Appropriations (State departments of education, and possibly some state supported universities).
   c. Federal government.
   d. Foundations.
   e. Miscellaneous sponsors.

2. If answer is "No", ask the respondent to describe the procedures most often followed.

QUESTION 10.

DOES THE RECURRENT NEED TO FIND FINANCIAL SUPPORT SERIOUSLY RESTRICT THE SCOPE AND/OR QUALITY OF YOUR INSTITUTION'S R&D OPERATIONS?

Notes to Interviewers:

1. We do not want the obvious response here, namely, something to the effect that "if we had more money we could do a better job." We are seeking insight into the question of sponsor's influence on the kind and quality of research activity.

2. Try to get specific examples.

QUESTION 11.

WHAT WORKING RELATIONSHIPS DO YOU HAVE WITH OTHER INSTITUTIONS WHICH HAVE AN INTEREST IN R&D IN YOUR MAJOR AREAS OF INTEREST?

Notes to Interviewers:

1. Determine whether relationships are structured or informal.

2. Do the relationships encourage interaction and feedback among the several R&D levels?

QUESTION 12.

HOW DO YOU AND YOUR STAFF MAINTAIN CONTACT WITH PROFESSIONALS (AS OPPOSED TO INSTITUTIONAL RELATIONS) HAVING SIMILAR INTERESTS?

Note to Interviewers:

What we are trying to get at here is where the relationship fits in the spectrum between intimate collaboration and writing journal articles at each other. Of course, there will be wide differences among individuals in any institutions, but you might be able to discern an institutional "style."

QUESTION 13.

IF INTER-INSTITUTION OR INTER-COLLEAGUE RELATINSHIPS ARE NOT SATISFACTORY, WHAT OBSTACLES DO YOU SEE AS PREVENTING OR RESTRICTING DESIRABLE RELATIONSHIPS?

Note to Interviewers:

The response might be in terms of isolation, time restrictions, money, personality conflicts, etc.

QUESTION 14.

GIVEN THE PRESENT ORGANIZATIONAL STRUCTURE WITHIN WHICH YOU OPERATE, AND GIVEN THE OPPORTUNITY TO CHANGE THAT STRUCTURE, WHAT MODIFICATIONS WOULD YOU MAKE IN ORDER TO IMPROVE YOUR R&D OUTPUT?

QUESTION 15.

IN THE CASE OF SPONSORED RESEARCH, WHAT CHANGES WOULD YOU LIKE TO SEE MADE IN YOUR FORMAL RELATIONSHIPS WITH THE SPONSORS? IN YOUR INFORMAL RELATIONSHIPS?

Note to Interviewers:

There will probably be different answers with respect to different sponsors -- i.e., respondent might be critical of the Federal Government, happy with reservations about Foundation A, and entirely satisfied with Foundation B. Please record such differences, and identify the sponsors.

QUESTION 16.

WHAT TRENDS DO YOU SEE DEVELOPING IN THE FIELD OF EDUCATIONAL R&D DURING THE NEXT DECADE? HOW DO YOU THINK THEY WILL AFFECT YOUR ORGANIZATION? WHAT FORCES DO YOU THINK ARE RESPONSIBLE FOR THOSE TRENDS?

Notes to Interviewers:

1. Seek forecast trends in area of general (public) interest, research techniques, financial support, etc.

2. What we want to know (among other things) is the congruity between the respondent's expectations and what he is now doing.

QUESTION 17.

DO YOU HAVE A PICTURE IN YOUR MIND OF THE SOCIETAL CONTEXT IN WHICH YOUR RESEARCH RESULTS WILL COME TO FRUITION IN THE FORM OF WIDESPREAD IMPLEMENTATION IN A TEACHING/LEARNING SITUATION? IF SO, WILL YOU OUTLINE THAT PICTURE?

Note to Interviewers:

This question should inspire some philosophical discourse, which can provide important insight for us.

NON-FEDERAL INSTITUTIONS WHERE INTERVIEWS WERE CONDUCTED IN PREPARATION FOR THIS REPORT, AND NAME OF RESPONDENT

INSTITUTION	NAME AND TITLE OF RESPONDENT
A. Research and Development Centers, and other USOE Sponsored Centers	
1. R&D Centers	
Learning R&D Center University of Pittsburgh	J. Steele Gow, Exec. Dir. J.L. Yaeger, Assoc. Dir.
Center for the Advanced Study of Educational Administration University of Oregon	Dr. Max G. Abbott, Director
Wisconsin Center for R&D for Cognitive Learning University of Wisconsin	Dr. Herbert J. Klausmeier, Dir. James P. Walter, Dissemination Section Dir.
R&D Center in Educational Stimulation University of Georgia	Dr. Warren G. Findley, Co-Director.
R&D Center in Teacher Education University of Texas	Dr. Oliver H. Brown, Co-Director
Stanford Center for R&D in Teaching Stanford University	Bruce Harlow, Coordinator of Publications, Dissemination and Media Unit
Center for R&D in Higher Education University of California, Berkeley	Dr. Leland L. Medsker, Director
Center for the Study of the Evaluation of Instructional Programs Los Angeles	Dr. Marvin Alkin, Co-Dir. Dr. Merlin C. Whittrock, Co-Director
2. Educational Policy Research Centers	
Educational Policy Research Center Stanford Research Institute Menlo Park, California	Dr. Robert Daw, Assistant Director
Educational Policy Research Center Syracuse University	Dr. Thomas Green, Director
3. Early Childhood Lab	
National Lab on Early Childhood University of Illinois	Dr. James O. Miller, Director

	INSTITUTION	NAME AND TITLE OF RESPONDENT
4.	Vocational Education Centers	
	The Center for Research and Leadership Development in Vocational and Technical Education Ohio State University	Dr. Robert E. Taylor, Director
	Center for Research, Development and Training in Occupational Eucation North Carolina State University	Dr. John K. Coster, Director
B.	Regional Educational Laboratories	
	Center for Urban Education New York, New York	Dr. Robert Dantler, Director
	Eastern Regional Institute for Education Syracuse, New York	Dr. Sidney Archer, Director
	The Far West Laboratory for Educational Research and Development Berkeley	Fred Rosenau, Coordinator of External Relations
	Education Development Center Newton, Massachusetts	Dr. Kevin Smith, Acting President
	Research for Better Schools, Inc. Philadelphia	Dr. James M. Becker, Ex. Dir. Dr. Margaret Jones, Program Coordinator
	Northwest Regional Educational Laboratory Portland, Oregon	Dr. John Sandburg, Deputy Director
	Regional Educational Laboratory for the Carolinas and Virginia Durham, North Carolina	Dr. Everett Hopkins, President
	Southwest Educational Development Laboratory Austin, Texas	Dr. Edwin Hindsman, Exec. Dir. Preston C. Kronsky, Staff Member
	Upper Midwest Regional Educational Laboratory Minneapolis	Dr. David Evans, Exec. Dir. Dr. Marvin F. Daley, Deputy Director for Programs
C.	Universities	
	Teachers College Columbia University	Dr. John H. Fischer, President
	School of Education Stanford University	Dean H. Thomas James

INSTITUTION	NAME AND TITLE OF RESPONDENT
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School of Education University of California, Berkeley	Dr. James Jarrett Associate Dean
Graduate School of Education UCLA, Malibu	Dean John I. Goodlad Dr. Carolyn Stern, Staff Member
School of Education University of Wisconsin	Dean Donald J. McCarty Dr. Stewart North, Coordinator ERIC/CEF
College of Education University of Illinois	Dean Rupert N. Evans
Oregon College of Education	Dr. James Beaird, Assoc. Dir. Teaching Research
College of Education University of Michigan	Dean Willard Olsen
College of Education Wayne State University	Dr. J.W. Child Asst. Dean of Students
School of Education University of Indiana	Dr. Henry M. Brickell, Assoc. Dean for R&D
College of Education University of Minnesota	Dr. Jack Merwin Associate Dean
Graduate School of Education University of Chicago	Dean Ronald F. Campbell
School of Education University of Pittsburgh	Dr. Morris Cogan, Chairman Dept. of Teacher Education Paul E. Watson, Assoc. Dir., International Study Center
College of Education University of Georgia	Dean Joseph Williams Dr. Stanley Aimsworth, Assoc. Dean for Research and Graduate Studies
College of Education University of Texas	Dean Wayne Holtzman

	INSTITUTION	NAME AND TITLE OF RESPONDENT
D.	State Education Departments	
	North Carolina Department of Public Instruction	Dr. Vester Mulholland, Dir., Research Division
	Georgia State Department of Education	Mr. William Schadacker, Director of Research Unit
	Minnesota State Department of Education	Mr. Walter Harvey, Director of Research W.W. Keenan, Administrator, Minn. National Lab. Section
	Massachusetts State Department of Education	Dr. James Baker, Director of Research
	New York State Department of Education	Dr. Lorne Woollatt, Assoc. Commissioner for Research and Evaluation
	Pennsylvania State Department of Education	Dr. Robert B. Hayes, Director of Research
	New Jersey State Department of Education	Dr. Stan Salett, Asst. Commissioner W. Phillips, Jr. Dir., Office of Research
	Texas State Department of Education	Dr. Jerry Barton, Director of Research
	California State Department of Education	Dr. Melvin Gipe, Director of Research
E.	Foundations	
	Ford Foundation New York, New York	Champion Ward
	Carnegie Foundation of New York New York, New York	Alden Dunham
	Russell Sage Foundation New York, New York	David Goslin
	Sloan Foundation New York, New York	Arthur Singer
	Rockefeller Foundation New York, New York	Leland DeVinney
	Kellogg Foundation Battle Creek, Michigan	Russell G. Mawby
	Kettering Foundation Dayton, Ohio	Samuel G. Sava

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APPENDIX B

THE BSSR SURVEY

Methodology and Description of Data App B-1

Statistical Results App B-6

BSSR Questionnaire App B-18

THE BSSR SURVEY

I METHODOLOGY AND DESCRIPTION OF DATA

A. Objectives

In order to assess the impact of educational R&D at the ultimate target point -- the classroom -- SURC contracted with BSSR to conduct a nation-wide survey of elementary and secondary school practices and their relation to R&D output.

Given the constraints of time and resources available, the survey was focused on school superintendents heading districts with enrollments of 600-99,999 pupils in the continental United States (excluding Alaska.[1]) In addition to purely descriptive data (e.g., size and residential character of district) information was obtained regarding practices and programs recently introduced as well as information bearing upon the needs of the district for present and future R&D products. Also, the opinions of the superintendents were explored about the usefulness of current R&D efforts and about those factors that would render results susceptible to practical exploitation.

B. Study Design and Data Collecting Procedures

Bearing in mind the specified requirements, the survey was designed to call for data collection in two successive stages; (a) by personal interview and, (b) by mail questionnaire.

The interview, flexible and broad in the coverage of relevant topics, served as pretest for the mail questionnaire in that it provided a range of the types of responses to be expected. Interviews were conducted with 55 school superintendents in all nine regions of the country. The sample was selected in a random manner from the population of 9254 operating districts (enrollments 600-99,999) appearing on a computer printout for 1967-68 supplied by the U.S. Office of Education. This population was stratified by nine geographic regions and by six categories, and the sample was chosen to approximate the proportions of districts in the cells of the 9 x 6 matrix.

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[1] It was reasoned that about 10,000 districts with enrollments below 600 students would rarely have instituted new programs or practices; also, that conditions in the 26 largest districts in the country (100,000 enrollment and above) are well known and that a disproportionate effort would have been required to obtain additional detailed information about their innovations.

Since no refusals were encountered, the 55 respondents who supplied the data represent a microcosm of the school districts within the chosen size limits.

Based upon the experience so obtained, a mail questionnaire was drafted and subsequently revised in consultation with representatives of SURC and of the U.S. Office of Education.

The target sample for the mail survey was selected from the computer printout mentioned above in essentially the same manner as the interview sample, i.e., by a stratified random technique where the stratifying variables were, again, nine geographic regions and six size categories. However, the second sample was designed to be 10-times larger and was weighted by size in such a manner that from the large number of the small districts fewer would be chosen than from the small number of the large districts. Power-of-two sampling fractions ran from 1/32 for the smallest districts to 1/2 for those with enrollments of 25,000-99,999 pupils: the main rationale for the technique of using increasing sampling fractions with increase in size was the assumption that the larger districts subsumed within a size interval would be less homogeneous in nature than those found in the narrower small-size categories. Hence the latter could be "represented" by smaller numbers at a gain in economy and ease of administration. The detailed sampling plan showing composition of sample and population, as well as governing sampling fractions, is shown in the Sampling Plan table.

On February 7, 1969, 574 envelopes (containing 2 questionnaires, business-return envelopes, cover letter, BSSR brochure) went out to the sample districts; this operation produced 120 returns by February 24, and the finding that one of our addressees was a non-operating district. The first follow-up was dispatched on that day including a return-addressed postcard.

By March 13, the returns stood at 176 (or slightly over 30% of 573) and it became obvious that the delay in returns had pushed data collection into the busiest season of the year when superintendents concentrate on the preparation of their budget proposals. Hence it was decided to stimulate the returns by way of a Western Union telephone survey of 343 nonrespondents (excluding about 50 districts who had requested duplicate questionnaires too recently to warrant follow-up).

After two and a half months and two complete follow-ups the data-gathering effort produced these results:

SAMPLING PLAN

	A	B	C	D	E	F	Total
Region /Size	600 - 1,199	1,200 - 2,999	3,000 - 5,999	6,000 - 11,999	12,000 - 24,999	25,000 - 99,999	
1	6/189	7/229	8/122	7/56	6/24	3/5	37/625
2	8/321	21/682	23/371	21/163	11/44	4/8	88/1,589
3	1/38	5/171	9/147	13/105	11/45	9/18	48/524
4	2/64	9/273	15/236	15/122	9/38	15/30	65/763
5	23/728	31/994	24/377	20/158	15/60	8/17	121/2,334
6	20/646	12/367	6/102	7/54	6/23	5/9	56/1,201
7	12/390	10/306	8/124	10/76	12/47	9/18	61/961
8	3/95	3/87	2/35	3/22	3/12	4/7	18/258
9	9/277	10/316	11/180	15/122	19/73	15/31	79/999
Total	85/2,748	108/3,425	106/1,694	110/878	92/366	72/143	573/9,254
Sampling fraction	1/32	1/32	1/16	1/8	1/4	1/2	

Returned questionnaires completed	342 (59.7%)
Returned questionnaires too late for processing	5
Refusals	32
Respondents claiming to have returned questionnaires	24
Still holding original or duplicate questionnaires	170
Total	573
Unreached by Western Union (despite several calls back)	38
Questionnaires sent out (1150 initially, 750 duplicates requested)	1900

It was necessary to stop data gathering at this point.

There was no opportunity to conduct a separate study of the districts that did not respond, but reasonable speculation can be made about the characteristics in which respondents and nonrespondents may differ from each other. It seems plausible that in the smallest enrollment category many superintendents who had relatively few new practices or programs in operation may have reasoned that the absence of their reports would not deprive the survey of essential information. At the other end of the distribution, in the two size categories of enrollment of 12,000 to 99,999 the extra effort demanded to compile information on newly-instituted activities in the large number of schools in the districts may have dissuaded some superintendents from participating in the survey. Thus, at the two ends of the enrollment spectrum, it may be expected that the nonrespondents exhibited patterns of novel practices and programs similar to those of the respondents in their respective size categories, only more extremely so. Consequently, the interpretation of the findings within these size categories calls for a conservative approach: the reports from the smallest districts should be viewed as probably maxima ("have no more than") while figures from the very large districts should be viewed as minima ("have at least").

C. Population Estimates

Since sampling fractions varied by size categories, the responses obtained from the 342 districts cannot be generalized to the districts in the population without breaking the respondent group by size. Where population projections were required, the following weights (multipliers) were applied to the responding enrollment subgroups: 3.3; 8.1; 13.5; 26.1; 48.2; 51.8 (listed in order from largest to smallest districts). In this manner, the population of U.S. districts with enrollments 600-99,999 is taken to amount to 9,088 districts in 1968-69. This figure, slightly smaller than the 9,254 shown in the original sampling plan for 1967-68, was obtained by inferring that changes in enrollment observed among responding districts would be paralleled in the population; it is consistent with the steady reduction in the number of small districts and slight increases in the large enrollment categories observed in the last 20 years.

Considerably more error-prone, and hence hazardous, are algebraic manipulations designed to extend data reported by 342 superintendents to the millions of students contained in the 9,088 districts. The next table shows one such approach.

ESTIMATED ENROLLMENT BY SIZE CATEGORY

Size Category	Number of Districts	Median Enrollment	Student Population (=NxMd.)
25,000-99,999	149	38,108	5,678,000
12,000-24,999	373	15,310	5,711,000
6,000-11,999	891	7,915	7,052,000
3,000- 5,999	1,670	4,025	6,722,000
1,200- 2,999	3,519	1,840	6,475,000
600- 1,199	2,486	842	2,093,000
Total Estimated Population			33,731,000

The population figures, obtained by multiplying the number of respective districts by the median enrollment of the category, are presented in the preceding table. An adaptation of this approach is employed in those tables dealing with novel practices and programs.

D. Demographic Characteristics of 342 Districts

The responding districts exhibited the following characteristics:

1. Three-fourths were comprehensive districts, encompassing kindergarten, or prekindergarten, to grade 12.
2. About one-half had fewer than 10 schools; another one-fifth reported 10-19 schools with the remainder showing higher numbers.

3. Current expenditures below $400 per pupil were indicated by 10% of respondents, while 45% were concentrated in the $400-599 interval; expenditures over $800 per student were reported by 11% of the respondents.

4. About one-fourth of the responding districts served populations at least 60% urban and nearly the same proportion were located in predominantly rural areas; 38% called themselves essentially suburban, the remainder accounting for the residentially mixed areas.

II STATISTICAL RESULTS

The following tables show the statistical results of the responses to Questions 7 through 16 of the BSSR mail questionnaire.[1]

The tables are numbered consecutively (1 through 9), but they do not follow the order of the questions in the BSSR questionnaire. Rather, they follow a more logical analytical order, so as to facilitate reference to them from the text in the body of this report (Chapter IV). However, each table caption shows the number of the relevant question in the questionnaire instrument, a copy of which follows the tables in this Appendix.

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[1] Questions 1 through 6 are identification and classification questions. Question 17 was designed to supplement the Attitude Survey; the statistical results are included in Appendix C, which deals with that Survey.

TABLE 1

QUESTION 7: EXTENT OF USE OF SELECTED "NEW" PRACTICES WEIGHTED PROJECTIONS

(In Percentages)

Practice	Extensive Use[a]			Limited Use[b]	No Use	Minimum Number of Students Without Access to Practice (in millions)
	Elementary Only	Secondary Only	Both Grade Levels			
Teacher Aides	30.0	1.9	21.6	15.8	30.7	9.0
Ability Groupings	17.9	14.9	12.1	18.1	37.7	11.6
Elementary Departmentalization	33.3	-	-	24.7	42.0	c
Team Teaching	11.2	5.7	2.8	17.9	62.4	16.8
Elementary Resource Teachers	23.9	-	-	8.4	67.7	c
T.V. Instruction	17.1	3.5	10.5	7.3	62.6	17.9
Movable Partitions	5.2	6.5	2.2	17.9	69.0	18.7
Non-Graded Sequencing	8.6	-	1.0	13.7	77.5	20.4
Independent Study	1.6	13.5	2.7	11.9	70.1	20.6
Programmed Instruction	5.9	4.2	5.4	9.9	74.5	22.7
IPI	6.0	6.3	3.7	10.0	74.1	23.3
Elimination of Letter Grades	16.1	1.6	2.6	5.3	75.3	23.3
Gaming	2.2	6.6	0.6	7.6	83.3	25.6
Modular Scheduling	1.7	3.7	0.5	6.4	87.8	26.5
Variable Course Length	2.1	4.5	2.1	4.2	87.0	27.1
Middle School	-	-	5.7	9.7	85.5	c
Extended School Year	0.5	-	2.4	2.4	94.7	31.7

[a] "Extensive Use" - in 50 percent of the schools at each grade level.

[b] "Limited Use" - in less than 50 percent of the schools at any grade level.

[c] No estimate can be provided as practice is grade level specific.

TABLE 1b

QUESTION 7: REPORT OF ADOPTION OF SELECTED "NEW" TEACHING PRACTICES BY DISTRICT SIZE-11

(In Percentages)

		New Practices								
District Size	N	Variable Course Length	Elimination Letter Grades	Modular Scheduling	IPI	Independent Study	Programmed Instruction	T.V. Instruction	Gaming	Movable Partitions
25,000 - 99,999	45	26.4	33.3	35.6	37.8	42.2	37.8	62.2	28.9	53.3
12,000 - 24,999	46	37.0	43.5	37.0	45.7	50.0	50.0	56.5	32.6	65.2
6,000 - 11,999	66	12.1	22.7	15.2	30.3	40.9	28.8	47.0	25.8	42.4
3,000 - 5,999	64	18.7	39.1	20.3	21.9	40.6	34.4	46.9	23.3	50.0
1,000 - 2,999	73	15.1	23.2	6.8	24.7	30.1	19.2	28.8	17.8	26.0
600 - 1,199	48	2.1	14.6	8.3	25.0	14.6	22.9	35.4	4.2	14.6
Weighted Projection	9,088	13.0	24.7	12.2	25.9	29.9	25.5	37.4	16.7	31.0

TABLE 1a

QUESTION 7: REPORT OF ADOPTION OF SELECTED "NEW" TEACHING PRACTICES BY DISTRICT SIZE-1

(In Percentages)

District Size	N	New Practice							
		Non-Graded Sequencing	Team Teaching	Elementary Department	Teacher Aides	Elementary Resource Teachers	Ability Class Grouping	Extended School Year	Middle School
25,000 - 99,999	45	66.7	66.7	66.7	73.3	66.7	64.4	8.9	17.8
12,000 - 24,999	46	58.7	73.9	60.9	84.8	69.6	69.6	6.5	17.4
6,000 - 11,999	66	40.9	62.1	53.0	75.2	40.9	63.6	7.6	12.1
3,000 - 5,999	64	31.2	62.5	62.5	73.4	46.9	73.4	1.6	14.1
1,200 - 2,999	73	15.1	21.9	55.8	61.6	26.0	61.6	5.5	17.8
600 - 1,199	48	12.5	27.1	60.4	72.9	20.8	54.2	6.2	10.4
Weighted Projection	9,088	22.5	37.6	58.0	69.3	32.3	62.3	5.3	14.5

TABLE 2

QUESTION 8: ADOPTION OF VARIOUS TYPES OF CURRICULUM CHANGE WEIGHTED PROJECTIONS

(In Percentages)

Curriculum Area	National Programs	Regional Programs	New Materials	New Approach	New Courses	None	Minimum Number of Students in Districts Without Change (in millions)
Science	19.9	4.0	4.6	4.5	7.9	51.0	15.7
Mathematics	7.0	0.8	7.3	27.6	3.5	56.5	17.7
Reading	2.6	1.0	18.6	11.7	7.5	60.2	17.7
English	7.1	1.6	2.9	12.8	4.6	71.5	20.5
Social Studies	1.5	4.0	5.8	6.3	9.3	76.8	21.9
Foreign Language	1.2	-	3.0	9.5	6.1	80.4	23.7
Special Education	0.5	0.8	0.1	4.2	10.4	83.8	27.1
Language Arts	0.6	0.6	2.6	5.3	2.0	88.1	27.4
Fine Arts	-	0.1	0.4	1.1	6.3	91.5	30.8

TABLE 3

QUESTION 8: REPORT OF CURRICULUM CHANGES SINCE 1965 BY DISTRICT SIZE

(In Percentages)

		Curriculum Area								
District Size	N	English	Fine Arts	Foreign Language	Language Arts	Mathematics	Reading	Science	Social Studies	Special Education
25,000 - 99,999	45	60.0	11.1	40.0	24.4	55.5	55.5	64.4	40.0	22.2
12,000 - 24,999	46	45.7	8.7	43.5	30.4	71.7	73.9	69.6	45.7	37.0
6,000 - 11,999	66	36.4	4.6	34.9	19.7	62.6	37.9	68.2	47.0	21.2
3,000 - 5,999	64	37.5	14.1	26.6	20.3	48.5	43.8	53.1	31.3	18.8
1,200 - 2,999	73	27.4	6.9	10.9	2.7	39.7	36.0	26.1	20.5	4.1
600 - 1,199	48	16.7	6.3	16.7	12.5	35.5	35.5	18.8	8.4	10.5
Weighted Projection	9,088	28.5	8.5	19.6	11.9	43.5	39.8	49.0	23.3	16.2

TABLE 4

QUESTION 10: OTHER MAJOR NEW PROGRAMS AND PRACTICES ADOPTED SINCE 1965 BY DISTRICT SIZE

(In Percentages)

		Programs Mentioned[a]						
District Size	N	New Curricula Vocational Education	Expansion of Nonbasic Courses	Use of Technology	Changes in Guidance	Head Start Pre-School	New Ways of Organizing Instruction	None
25,000 - 99,999	45	17.8	22.2	17.8	13.3	11.1	13.3	42.2
12,000 - 24,999	46	28.3	19.6	10.9	8.7	10.9	26.1	32.6
6,000 - 11,999	66	16.7	16.7	9.1	4.5	12.1	10.6	54.5
3,000 - 5,999	64	10.9	15.6	10.9	9.4	10.9	20.3	54.7
1,200 - 2,999	73	9.6	6.8	11.0	8.2	2.7	8.2	64.4
600 - 1,199	48	8.3	12.5	4.2	6.3	8.3	2.1	68.8
Weighted Projection	9,088	11.1	11.7	9.0	7.6	7.2	9.8	61.2

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[a] Only those programs mentioned by 10 percent or more of the respondents in any category are shown.

TABLE 5

QUESTION 13: AND 14: MAJOR TYPES OF RESEARCH ACTIVITY AT DISTRICT LEVEL BY DISTRICT SIZE[a]

(In Percentages)

District Size	N	Research Activities Mentioned				Median Dollar Figure for R&D[b]
		Curriculum Development	Testing and Evaluation	Organization of Instruction	None	
25,999 - 99,999	45	40.0	20.0	17.8	22.2	$ 63,800
12,000 - 24,999	46	37.0	13.0	15.2	32.6	25,250
6,000 - 11,999	66	37.9	3.0	18.2	39.4	39,250
3,000 - 5,999	64	34.4	6.3	17.2	35.9	13,350
1,200 - 2,999	73	13.7	5.5	9.6	65.8	3,900
600 - 1,199	48	8.3	4.2	-	77.1	1,550
Weighted Projection	9,098	19.8	5.6	9.6	58.7	6,300

[a] "Major" is defined as mentioned by 10 percent or more of the districts in any size category.

[b] Based on only those districts that gave a total budget figure (141 districts).

TABLE 6

QUESTION 12: DISTRICT USE OF SELECTED SOURCES OF INFORMATION ON R&D BY DISTRICT SIZE[a]

District Size	Number of Districts Reporting	AERA	ERIC	NEA	REL'S	Professional Journals	Professional Meetings	Workshops, Institutes
		Percent Using Each Source Listed						
25,000 - 99,999	45	(13.3) 71.1	(6.7) 71.1	(37.8) 95.6	(11.1) 80.0	(35.6) 88.9	(62.2) 93.3	(57.8) 91.1
12,000 - 24,999	46	(2.2) 54.4	(10.9) 69.6	(30.4) 84.7	(13.0) 63.0	(50.0) 89.1	(67.4) 95.7	(63.0) 95.6
6,000 - 11,999	66	(3.0) 43.9	(3.0) 54.5	(27.3) 94.0	(9.1) 72.7	(34.8) 83.9	(59.1) 95.5	(53.0) 95.4
3,000 - 5,999	64	(3.1) 43.7	(3.1) 56.2	(18.8) 93.8	(4.7) 76.6	(32.8) 98.4	(54.7) 93.8	(50.0) 93.8
1,200 - 2,999	73	(-) 28.8	(1.4) 35.6	(9.6) 89.1	(8.2) 58.9	(20.5) 87.6	(50.7) 93.2	(42.5) 87.7
600 - 1,199	48	(-) 22.9	(-) 22.9	(16.7) 83.4	(14.6) 60.4	(20.8) 87.5	(47.9) 93.7	(35.4) 89.6
Weighted Projection	9,088	(1.2) 33.2	(2.0) 39.8	(16.3) 88.8	(9.6) 64.4	(25.7) 90.3	(52.4) 93.8	(44.1) 90.5

[a] Percent reporting extensive use is shown in parentheses.

TABLE 7

QUESTION 16: SUGGESTIONS FOR INCREASING USEFULNESS OF R&D RESULTS BY DISTRICT SIZE[a]

(In Percentages)

District Size	Number of Districts Reporting	Desired Activity						
		Workshops, Seminars	Wider Dissemination	More Readable Reports	Screening Agency	Demonstration Projects	Emphasis on Implementation	None
25,000 - 99,999	45	22.2	33.3	22.2	4.4	4.4	22.2	28.9
12,000 - 24,999	46	6.5	39.1	4.3	8.7	10.9	13.0	32.6
6,000 - 11,999	66	16.7	16.7	13.6	13.6	12.1	18.2	33.3
3,000 - 5,999	64	14.1	40.6	15.6	9.4	12.5	7.8	31.3
1,200 - 2,999	73	12.3	13.7	4.1	4.1	2.7	17.8	53.4
600 - 1,199	48	6.3	22.9	8.3	-	-	6.3	58.3
Weighted Projection	9,088	11.3	22.8	8.6	5.1	5.1	12.7	47.5

TABLE 8

QUESTION 11: MAJOR IMPORTANT PRODUCTS OF EDUCATIONAL R&D BY DISTRICT SIZE[a]

(In Percentages)

District Size	Number of Districts Reporting	Type of Research Mentioned					
		Educational Technology	Staff Utiliza- tion	Organization of Instruction	Learning Process	New Basic Curricula	None
25,000 - 99,999	45	31.1	20.0	20.0	15.6	20.0	28.8
12,000 - 24,999	46	13.0	10.9	19.6	13.0	13.0	43.5
6,000 - 11,999	66	22.7	13.6	16.7	6.1	15.2	54.5
3,000 - 5,999	64	20.3	9.4	21.9	12.5	14.1	42.2
1,200 - 2,999	73	13.7	5.5	13.7	-	6.8	71.2
600 - 1,199	48	10.4	0.0	6.3	2.1	8.3	77.1
Weighted Projection	9,088	15.2	6.0	13.8	4.3	9.9	64.0

TABLE 9

QUESTION 15: MAJOR AREAS OF NEEDED RESEARCH TO MEET DISTRICT NEEDS BY DISTRICT SIZE[a]

(In Percentages)

District Size	Number of Districts Reporting	Kinds of Research Mentioned								
		Organization of Instruction	Role of Teacher	Learning Process	Educational Technology	General Curriculum	Specific Curricula	Needs of Special Groups	Individualized Instruction	None
25,000 - 99,999	45	17.8	22.2	31.1	6.7	11.1	11.1	26.7	11.1	20.0
12,000 - 24,999	46	13.0	21.7	21.7	8.7	13.0	13.0	17.4	13.0	30.4
6,000 - 11,999	66	24.2	18.2	15.2	10.6	21.2	9.1	15.2	12.1	27.3
3,000 - 5,999	64	21.9	21.9	21.9	10.9	18.8	6.3	14.1	10.9	28.1
1,200 - 2,999	73	17.8	11.0	6.8	6.8	15.1	5.5	9.6	5.5	46.6
600 - 1,199	48	8.3	2.1	10.4	4.2	6.3	8.3	6.3	4.2	56.3
Weighted Projection	9,088	16.4	11.9	12.4	7.3	13.8	7.2	10.6	7.2	42.8

BSSR #418

Case Number

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BUREAU OF SOCIAL SCIENCE RESEARCH, INC.

1200 Seventeenth Street, N.W.
Washington, D.C. 20036

INSTRUCTION: Unless otherwise indicated please circle the code number to the right of the appropriate choice.

1. What is your title?

Superintendent	1
Other ______________________ (specify)	2

2. What is your total pupil enrollment?

under 600	8	6,000 - 11,999	4
600 - 1,199	7	12,000 - 24,999	3
1,200 - 2,999	6	25,000 - 99,999	2
3,000 - 5,999	5	100,000 +	1

3. Please circle the lowest and highest grade included in your school district.

K 1 2 3 4 5 6 7 8 9 10 11 12 13 14

4. How many elementary and secondary schools does your district serve? *Please include your junior high schools in the secondary schools category.*

Elementary ____________

Secondary ____________

Total ____________

5. What are your budgeted current, 1968 - 1969, expenditures per pupil (excluding capital outlay and debt service)?

$199 or less	1	$600 - 799	4
$200 - 399	2	$800 - 999	5
$400 - 599	3	$1,000 or more	6

6. What kind of population does your school district serve? *Please estimate the percentage in each category.*

Urban .... ____________ %

Suburban .... ____________ %

Rural .... ____________ %

100 %

Definition of Practices

1. *Nongraded sequencing* – a program in which students proceed without regard to grade level or sequence; subjects are not divided into semesters and students progress on an individual basis, so as to assure continuous progress.
2. *Team teaching* – an arrangement whereby two or more teachers, in order to take advantage of their respective competencies, plan, instruct, and evaluate, in one or more subject areas, a group of elementary or secondary students equivalent in size to two or more conventional classes.
3. *Elementary departmentalization* – a system in which pupils are scheduled to spend a specified period of time each day with different teachers for instruction in different subject areas.
4. *Teacher aides* – paraprofessional persons used to assist teachers in essentially non-teaching duties; primarily mechanical tasks, paper work.
5. *Elementary resource teachers* – teachers qualified in special fields acting as consultants to regular classroom teachers.
6. *Ability grouping of classes* – system in which each student is tested in each subject and then is assigned to the class or the kind of study which takes account of his knowledge or ability without regard to the grade to which he was last promoted.
7. *Extended school year* – total number of days students attend school (exclusive of summer sessions), about 200 days or more, or at least approximately two weeks in excess of what may be legally required.
8. *Middle schools* – a school that includes 1 or 2 of the upper elementary grades and 1 or 2 of the lower junior high grades; 3 or 4 grades from 3 – 8.
9. *Variable course length* – breaking up courses into variable length time segments, e.g., 12 weeks rather than traditional semester or year.
10. *Elimination of letter grades* – substitution of parent conferences for traditional report cards or reducing present system of five or more letter grades to only two marks – "Pass" or "Fail".
11. *Flexible (modular) scheduling* – operation on a variable schedule which starts with modules of 5 to 20 minutes and organizes the day into various combinations of these modules according to different learning environments needed.
12. *Individually Prescribed Instruction* – programs tailored to fit the instructional needs of each particular student.
13. *Independent study* – reading and laboratory work done on student's own, to allow him to experience a variety of learning activities away from the constant supervision of teachers.
14. *Programmed instruction* – a course designed for independent use in which students regularly use programmed materials so they proceed in small steps, respond to information and are informed immediately whether or not the response is correct.
15. *Television instruction* – one or more classes regularly using open or closed circuit television as means of teaching course.
16. *Simulation or gaming* – one or more classes periodically using a device to create realistic political or social situations in class for helping students to become involved in decision making.
17. *Movable room partitions* – sliding partitions which can be used to alter class size, may be opened to combine classes or closed to provide smaller rooms for discussion, independent study, etc.

7. Has your district *adopted* any of the "new" teaching or staffing practices listed below? *Please refer to the definitions given on the opposite page.* Please check only the ones that are *extensively* used by your district. Also indicate the grade levels, if applicable the subject areas, and the total number of schools in your district that use the new practices.

Practice	*Grade Level(s) Involved*	*Subject Area(s) Involved* (when applicable)	*Number of schools Involved*
1. Nongraded sequencing			
2. Team teaching			
3. Elementary departmentalization			
4. Teacher aids			
5. Elementary resource teachers			
6. Ability grouping of classes			
7. Extended school year			
8. Middle school			
9. Variable course length			
10. Elimination of letter grades			
11. Flexible (modular) scheduling			
12. Individually Prescribed Instruction			
13. Independent study			
14. Programmed instruction			
15. Television instruction			
16. Simulation or gaming			
17. Movable room partitions			

8. New sets of curriculum materials have been developed in many areas: Math, science, English, reading, etc. Has your district *adopted* and used *extensively* any of these new programs *since 1965?* Indicate the name or type of the new program, the grade levels involved, and the number of schools in your district that utilize the new program.

Subject Area	*Name or type of program*	*At what grade level(s)?*	*In how many schools?*
1. English			
2. Fine Arts			
3. Foreign Language			
4. Language Arts			
5. Mathematics			
6. Reading			
7. Science			
8. Social Studies			
9. Special Education			
10. Other: ________ (specify)			

9. Has your district seriously considered any new curriculum materials which were subsequently rejected?

Yes .... 1 No 2

9a. *IF YES:* Please list them below together with the reasons for rejecting them.

10. What *other* major new programs and practices have been adopted in your school district since 1965?

11. Please identify any results or products from recent educational research or development* that had or will have widespread influence on school practices in this country?

1.

2.

3.

---

*The object of ***Research*** is to generate new knowledge about instruction and the educational process. The object of ***Development*** is to produce – through careful design and engineering – materials, techniques, processes, and organizational formats for instruction which accomplish specified objectives.

12. Please indicate the extent to which your district has utilized or consulted each of the following sources of information regarding *research or development in education.*

	To a great extent	To some extent	Not at all
1. American Educational Research Association (AERA) publications	1	2	3
2. Educational Resources Information Center (ERIC) publications	1	2	3
3. NEA Research bulletins	1	2	3
4. Reports from Regional Educational Laboratories	1	2	3
5. Other professional journals	1	2	3
6. Professional meetings	1	2	3
7. Institutes or workshops	1	2	3
8. Other __________ (specify)	1	2	3

13. Does your current budget provide funds for educational research or development?

Yes .... 1 No 2

13a. *IF YES:* Please indicate the amount of funding for educational research development from each of the following sources.

Sources	*Funds*
Federal Government	$ ________
State Government	$ ________
Local Taxes	$ ________
Private Foundations	$ ________
Other ________ (specify)	$ ________
Total	$ ________

14. Please describe the research or development activities in which your district is currently engaged.

15. What kinds of Educational Research and Development would be most helpful in meeting the needs of your District?

    1.

    2.

    3.

16. What should persons engaged in Educational Research and Development do to make the results of their activities more useful to you?

17. We would like your opinion about Educational Research and Development. Please indicate the degree to which you agree or disagree with each of the following statements by circling the appropriate number on the scale of 1 through 6, with 1 indicating Strong Agreement, and 6 indicating Strong Disagreement as follows:

STRONGLY AGREE 1 2 3 4 5 6 STRONGLY DISAGREE

1. The output of Research and Development organizations significantly influences American education. 1 2 3 4 5 6
2. Dissemination is the most overlooked aspect of Research and Development 1 2 3 4 5 6
3. Most researchers are more interested in refining their research than in seeing project results further on the road to implementation ... 1 2 3 4 5 6
4. One would be hard pressed to justify the Research and Development network in terms of actual impact on the educational system. 1 2 3 4 5 6
5. The primary focus of Research and Development should be one on theoretical work as opposed to application. 1 2 3 4 5 6
6. The majority of significant educational innovations can be directly linked to specific Research and Development undertakings. 1 2 3 4 5 6
7. Within Research and Development, there appears to be a tendency to "ride an old horse to death" rather than to "seek a new mount". 1 2 3 4 5 6
8. Research and Development efforts are too much directed to problems of today or yesterday, instead of to foreseeable problems of five or ten years from now. 1 2 3 4 5 6
9. The implications of research findings can be accepted at face value. 1 2 3 4 5 6
10. In general, Research and Development resources are channeled to an elite few (in other words, the rich get richer). 1 2 3 4 5 6
11. Educational research findings are easily adaptable for practical use. 1 2 3 4 5 6
12. A major Research and Development shortcoming is a lack of structure which would insure feedback of results. 1 2 3 4 5 6
13. When one looks at the overall budget for Educational Research and Development it is evident that more of the available funds should be allocated to development. 1 2 3 4 5 6

◆ ◆ ◆ ◆ ◆ ◆

THANK YOU FOR COMPLETING THE QUESTIONNAIRE.

APPENDIX C

ATTITUDE QUESTIONNAIRE

Analysis of Attitude Questionnaire App C-1

Weighted Score Summary of Attitude Questionnaire App C-6

Percentage Distribution of Responses to Attitude Questionnaire

Universities App C-11

Centers App C-16

Sponsors App C-21

Total App C-26

Superintendents App C-31

ANALYSIS OF ATTITUDE QUESTIONNAIRE

I. Attached are tables showing the results of the Attitude Questionnaire which was answered by 75 people who were interviewed in connection with the Educational Research and Development survey.

The figures shown in the tables should be used with great caution. It is quite possible that wrong inferences can be drawn from them. This caveat applies especially to the interpretation of responses to any one question taken by itself. For this reason, it is necessary to spell out some qualifications which should be borne in mind by anyone using the tables.

A. The "sample" of 75 respondents would hardly qualify as a sample in any accepted statistical sense. We interviewed a number of people associated with Educational R&D in universities, R&D centers, regional labs, state governments, foundations, and federal agencies. These people were selected for interviewing because of their superior knowledge of and experience in the field. From these interviews we acquired a great deal of insight into Educational R&D as it is sponsored and conducted; this was our primary purpose. The Attitude Questionnaire (the results of which are in these tables) was incidental to our primary purpose. If our primary purpose had been to administer the Attitude Questionnaire, we would have selected a different grouping of people to interview.

B. The number of respondents is quite small. The number of respondents in each subgroup, obviously, is much smaller. Consequently, the reliability of the subgroup responses is questionable, if the response of a particular subgroup is compared to that of another. For example, we do not really know if the attitude of sponsors, as a group, differs significantly from the attitude of others (as might be suggested by some of the replies), because there were only 18 respondents in our "sample" of sponsors.

C. Although it was not intended to be such, this survey turned out to be a pretest in the sense that it suggests methodological changes if there should be a further investigation of attitudes towards educational R&D. As should be the case with all pretests, we found defects with respect to clarity in some of the questions; one or two were found to be irrelevant.

II. Ten of the 35 questions were also put to district school superintendents throughout the country as part of the mail survey conducted for us by the Bureau of Social Science Research; 342 superintendents responded prior to the cut-off date for processing. Their responses to the 10 questions can be considered as being representative of a valid sample.

III. A word now about the organization of the tables:

A. The 75 interview respondents were broken down into three groups according to organizational affiliation: (1) university affiliated people, i.e., deans, department heads, and professors; (2) Respondents who are clearly identified with R&D centers or REL's, even though they might also be university personnel; (3) Government and foundation personnel; these can be thought of as representing the sponsors of educational R&D. Columns in the tables show this breakdown. Results from the BSSR mail survey of district superintendents are shown separately for the 10 questions which were put to this group of respondents.

B. We did not put the questions to the respondents in the order shown in the tables. The questions in the original questionnaire were arranged at random, so that the respondents (we hoped) would not be able to see the connection between related questions. In the attached tables, we have regrouped the questions into five categories:

(1) Questions relating to allocation of resources.
(2) Questions relating to structure of resources.
(3) Questions relating to researchers and sponsors.
(4) Questions relating to impact of resources.
(5) Questions relating to an overall evaluation of educational R&D efforts.

C. The initial set of tables (the first tab) shows the weighted score of each of the groups of respondents (A. above) for each of the sets of questions. The purpose of computing a weighted score was to get a single figure of respondent's opinions, arranged according to category of respondent, so that we could compare the attitudes of the several groups. We tried several methods of determining a single, and comparative, figure of intensity of opinion. They all came out with about the same results. A technical note detailing the computation of the weighted scores follows. In general, allowing for gradations in each scale evaluation, the weighted scores can be read as follows:

Plus 3 to minus 3: Neutral
Plus 4 to plus 25: Agreement
Minus 4 to minus 25: Disagreement
Plus 26 to plus 50: Strong agreement
Minus 26 to minus 50: Strong disagreement
Above plus 50: Very strong agreement
Below minus 50: Very strong disagreement

D. The next set of tables (the second through the sixth tabs) show the frequency distribution of replies to each group of questions (B above) by each of the categories of respondent (A above). The two sets of tables cannot be properly interpreted without reference to each other.

IV. Bearing in mind the qualifications set forth in Section I, some tentative conclusions can be drawn. At the expense of appearing to be overcautious, it is necessary to point out again that these conclusions are suggestive, and not definitive.

A. The responses, as a whole, show, an overwhelming approval of educational R&D as being a positive contribution to progress in the field of education, but with reservations about whether or not the total R&D effort is approaching its potential as well as it should. This general conclusion is not surprising. People concerned with education cannot take a negative attitude towards R&D as an instrument of progress; nevertheless, at the same time they can wish for better results.

B. Contrary to expectations when this survey was begun, the opinions of district school superintendents (those covered by the BSSR survey) tended to be roughly the same as the opinions of the other groups. The only significant differences are in questions D-1 and E-11, where they are out of line with the response from sponsors. They are also out of line with sponsors on question D-6. However, the aberration may well be because of the inadequacy of the sponsor sample (see E below on the subject of sponsor response).

C. There is general agreement that the R&D community should emphasize the "D" -- whether this be development, dissemination, diffusion, or delivery, with special emphasis on the direction of implementation. This conclusion appears chiefly in the "D" series of questions. It is reinforced somewhat by the responses to questions B-1 and C-5.

D. There also appears to be some agreement that R&D resources are not now best used for ultimate delivery purposes. Of course, these responses reflect the general position stated above. But some additional responses are worth noticing: Questions A-1, 2, 5, 7; E-3, and (despite the disparity among groups of respondents) E-2.

E. The attitude of sponsors, as shown by the questionnaire results (with all of the qualifications set forth above), is worthy of notice when compared with the attitude of the other groups. The comparisons are subject to many interpretations. However, in general, they suggest that sponsors are:

1. Less satisfied than other groups with the allocation of R&D resources, although allocation is their responsibility. See especially the responses to questions A-1, 5, 6, 7; E-6, and E-7.
2. Considerably less satisfied than the other groups about R&D resource use. See especially the responses to questions B-1, 4, 5, and E-8.
3. Believe, more than the other groups, that R&D efforts fail in the delivery or implementation aspects. See especially the responses to questions C-4, 5; D-1, 3, 5, 6, and E-2, 3, 5.

(NOTE from researcher)
The responses of sponsors might seem to indicate skepticism or even cynicism about the value of educational R&D. Most of the sponsor respondents were interviewed personally. Their attitude was mainly one of frustration. Their interest was in getting R&D findings translated into action, and on this score they were impatient, a fact which tends to reinforce the conclusions in C and D above.

V. Technical Note:

1. The Attitude Questionnaire consisted of 35 questions, as shown in the preceding tables, put to each of 75 interview respondents. The respondents were asked to record their attitudes towards each of the questions (or, more properly, propositions) on an intensity scale as follows:

Strongly Agree 1 2 3 4 5 6 Strongly Disagree
/ No Answer

2. Respondents were separated into four groups as described in III-A above.

3. For each group, responses to each of the questions were summed for each of the intensity levels. These summations, disregarding "no answers", were expressed as percentages of actual respondents. The results are shown in the second set of tables (the second through sixth tabs) as frequency distributions.

4. In order to get a single weighted score for incorporation into the initial set of tables (the first tab), the frequencies were weighted as follows:

Strongly Agree +3 +2 +1 -1 -2 -3 Strongly Disagree

and the results were summed. The summation came out to a measure of intensity of group opinion ranging, theoretically, from +300 to -300, the plus sign indicating agreement. The resultant figures were then divided by 3, in order to reduce the theoretical scale to a range of +100 to -100, simply for convenience of referring to a 100 scale instead of a 300 one.

5. For example, Question A-1:

   a. The frequency distribution of opinion intensity on a scale of 1 to 6 was as follows: 4, 7, 19, 31, 39, 0.

   b. Weighted as above, the values become +12, +14, +19, -31, -78, -0 = minus 64 on a scale of plus-to-minus 300.

   c. Reduced, for convenience in reading to scale of plus-to-minus 100, the "weighted score" figure comes out to minus 21.

(Tab. 1 Page 1 of 5)

WEIGHTED SCORE SUMMARY OF ATTITUDE QUESTIONNAIRE
(BY CLASS OF RESPONDENT)

(Scores are on a scale of Zero to 100)

A. QUESTIONS RELATING TO ALLOCATION OF RESOURCES

	← RESPONDENTS FROM				→
	UNIVERSITIES	R&D CENTERS & RELS	GOVT. & FOUND.	1&2&3 (Total)	DISTRICT SUPTS.
1. The ultimate value of specific research proposals is seldom heavily weighted in the process of selection and allocation of support.	-21	-10	3	-11	
2. In general, R&D resources are channeled to an elite few (in other words, the rich get richer).	16	13	20	17	24
3. R&D resources should be more evenly spread within the educational community.	-49	-41	-13	-36	
4. R&D funding should be primarily a function of a well defined hierarchy of priorities.	17	45	32	30	
5. In many cases, R&D support is the matter of "being in the right place at the right time".	29	4	41	24	
6. Personal connections play too large a part in the allocation of R&D resources regardless of level.	-14	-30	8	-15	
7. Management of resources within R&D appears to follow no identifiable strategy.	- 9	- 9	26	1	

Note 1: The method of computing these scores is explained in a technical memorandum, attached.
Note 2: Positive figures are a measure of group agreement; negative figures a measure of disagreement.
Note 3: The number of respondents in each group is as follows:

Universities:	31
R&D Centers & REL's:	26
Govt. & Foundations:	18
Total of above:	75
Superintendents:	342

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS

SET FORTH IN THE COVERING MEMORANDUM

WEIGHTED SCORE SUMMARY OF ATTITUDE QUESTIONNAIRE
(BY CLASS OF RESPONDENT)

(Scores are on a scale of Zero to 100)

B. QUESTIONS RELATING TO STRUCTURE OF RESOURCES

	RESPONDENTS FROM				
	UNIVERSITIES	R&D CENTERS & RELS	GOVT. & FOUND.	1&2&3 (Total)	DISTRICT SUPTS.
1. A major R&D shortcoming is a lack of structure which would insure feedback of results.	32	33	68	41	51
2. Differentiation of the terms "research" and "development" is simply one of example of the bureaucratic red tape which strangles the researcher.	-49	-46	-18	-40	
3. R&D sponsors should forcefully encourage close communication among researchers doing related work.	50	39	34	43	
4. As a result of the structure of educational R&D a pseudo-researcher has been created whose talent is grantsmanship.	14	- 6	46	13	
5. Within R&D, there appears to be a tendency to "ride an old horse to death" rather than to "seek a new mount".	-20	-10	21	- 4	4
6. The decision-making process within R&D is in the hands of a few very powerful individuals.	-12	8	10	2	

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS

SET FORTH IN THE COVERING MEMORANDUM

(Tab. 1 Page 3 of 5)

WEIGHTED SCORE SUMMARY OF ATTITUDE QUESTIONNAIRE
(BY CLASS OF RESPONDENT)

(Scores are on a scale of Zero to 100)

C. QUESTIONS RELATING TO RESEARCHERS AND SPONSORS

	RESPONDENTS FROM				
	UNIVERSITIES	R&D CENTERS & RELS	GOVT. & FOUND.	1&2&3 (Total)	DISTRICT SUPTS.
1. From the researcher's perspective, present levels of R&D funding are adequate.	-68	-71	-74	-72	
2. In general, R&D funding agencies (sponsors) are responsive to the needs of the researcher.	- 1	11	3	3	
3. In order to secure R&D support, the researcher must generally resort to trade-offs or labeling of one form or another.	21	5	20	16	
4. Most R&D sponsors are inflexible and hence, once funding has been obtained, researchers are unable to incorporate desirable innovations or changes in research design as the project proceeds.	-25	-46	6	-25	
5. R&D needs to be retooled in order to include a much broader base which would be more responsive to the needs of the ultimate consumers of R&D output.	20	26	53	31	
6. Individual researchers reflect little more than financial allegiance to sponsoring agencies.	-21	4	10	- 6	

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS

SET FORTH IN THE COVERING MEMORANDUM

WEIGHTED SCORE SUMMARY OF ATTITUDE QUESTIONNAIRE
(BY CLASS OF RESPONDENT)

(Scores are on a scale of Zero to 100)

D. QUESTIONS RELATING TO IMPACT OF RESOURCES

	← RESPONDENTS FROM				→
	UNIVERSITIES	R&D CENTERS & RELS	GOVT. & FOUND	1&2&3 (Total)	DISTRICT SUPTS.
1. The output of R&D organizations significantly influence American education.	13	19	-24	8	14
2. Effective implementation of R&D output is a pressing need.	71	79	76	76	
3. Dissemination is the most overlooked aspect of R&D.	29	30	50	35	50
4. Most researchers are more interested in refining their research than in seeing project results further on the road to implementation.	15	41	50	33	44
5. Individual projects and investigators are granted so much autonomy that effective monitoring of the overall impact of R&D is impossible.	-31	-14	- 3	-19	
6. One would be hard pressed to justify the R&D network in terms of actual impact on the educational system.	-13	-17	58	2	11
7. The primary focus of R&D should be one of theoretical work as opposed to application.	-44	-75	-60	-59	-67
8. The majority of significant educational innovations can be directly linked to specific R&D undertakings.	-37	- 1	-41	-26	- 1

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS

SET FORTH IN THE COVERING MEMORANDUM

WEIGHTED SCORE SUMMARY OF ATTITUDE QUESTIONNAIRE
(BY CLASS OF RESPONDENT)

(Scores are on a scale of Zero to 100)

E. QUESTIONS RELATING TO OVERALL EVALUATION

	← RESPONDENTS FROM →				
	UNIVERSITIES	R&D CENTERS & RELS	GOVT. & FOUND.	1&2&3 (Total)	DISTRICT Supts.
1. Continuing Research and Development is crucial to the progress of American Education.	86	95	84	89	
2. The recent proliferation of R&D activities is in response to a felt need and is serving that need in a more than satisfactory fashion.	33	20	-20	15	
3. The majority of R&D projects may be classified as "flash-in-the-pan" operations.	-29	-40	2	-25	
4. For decision-making purposes, it is useful to categorize R&D activities in terms of research, development, dissemination, diffusion, and training.	44	26	49	39	
5. Due to wide-spread overlap of efforts, the R&D network represents a tremendous waste of resources.	-29	-48	8	29	
6. R&D suffers greatly from a lack of direction	8	-23	44	8	
7. In general, educational R&D is overdue for a sweeping renovation.	- 6	- 4	42	8	
8. R&D efforts are too much directed to problems of today or yesterday, instead of to foreseeable problems of five or ten years from now.	17	17	45	23	11

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS

SET FORTH IN THE COVERING MEMORANDUM

PERCENTAGE DISTRIBUTION OF RESPONSES TO ATTITUDE QUESTIONNAIRE

GROUP I: RESPONDENTS AFFILIATED WITH UNIVERSITIES

A. QUESTIONS RELATING TO ALLOCATION OF RESOURCES

STRONGLY AGREE	1	2	3	4	5	6	STRONGLY DISAGREE	NUMBER OF RESPONDENTS
1. The ultimate value of specific research proposals is seldom heavily weighted in the process of selection and allocation of support.	4	7	19	31	39	0		26
2. In general, R&D resources are channeled to an elite few (in other words, the rich get richer).	7	28	28	20	14	3		29
3. R&D resources should be more evenly spread within the educational community.	0	7	11	25	25	32		28
4. R&D funding should be primarily a function of a well defined hierarchy of priorities.	3	35	26	19	13	3		27
5. In many cases, R&D support is the matter of "being in the right place at the right time."	18	22	33	12	12	3		27
6. Personal connections play too large a part in the allocation of R&D resources regardless of level.	7	15	12	33	26	7		27
7. Management of resources within R&D appears to follow no identifiable strategy.	0	15	33	18	30	4		27

Note 1: Number of respondents in this group: 31

Note 2: In most cases, individual respondents did not answer all questions. Percentage distributions for each question are based on the actual number of respondents to each question, as shown in the last column above.

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS

SET FORTH IN THE CONVERING MEMORANDUM

(Tab. 2 Page 2 of 5)

PERCENTAGE DISTRIBUTION OF RESPONSES TO ATTITUDE QUESTIONNAIRE

GROUP I: RESPONDENTS AFFILIATED WITH UNIVERSITIES

B. QUESTIONS RELATING TO STRUCTURE OF RESOURCES

STRONGLY AGREE	1	2	3	4	5	6	STRONGLY DISAGREE	NUMBER OF RESPONDENTS
1. A major R&D shortcoming is a lack of structure which would insure feedback of results.	14	35	25	11	11	3	☒	28
2. Differentiation of the terms "research" and "development" is simply one of example of the bureaucratic red-tape which strangles the researcher	0	7	14	14	38	28	☒	29
3. R&D sponsors should forcefully encourage close communication among researchers doing related work.	31	28	28	7	0	7	☒	29
4. As a result of the structure of educational R&D a pseudo-researcher has been created whose talent is grantsmanship.	7	28	28	14	20	3	☒	29
5. Within R&D, there appears to be a tendency to "ride an old horse to death" rather than to "seek a new mount".	0	12	23	31	27	7	☒	26
6. The decision-making process within R&D is in the hands of a few very powerful individuals.	0	19	27	19	23	12	☒	26

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS

SET FORTH IN THE COVERING MEMORANDUM

(Tab. 2 Page 3 of 5)

PERCENTAGE DISTRIBUTION OF RESPONSES TO ATTITUDE QUESTIONNAIRE

GROUP I: RESPONDENTS AFFILIATED WITH UNIVERSITIES

C. QUESTIONS RELATING TO RESEARCHERS AND SPONSORS

STRONGLY AGREE	1	2	3	4	5	6	STRONGLY DISAGREE	NUMBER OF RESPONDENTS
1. From the researcher's perspective, present levels of R&D funding are adequate.	3	3	4	4	39	47	☒	28
2. In general, R&D finding agencies (sponsors) are responsive to the needs of the researcher.	0	23	27	27	19	4	☒	26
3. In order to secure R&D support, the researcher must generally resort to trade-offs or labeling of one form or another.	7	35	28	7	19	4	☒	26
4. Most R&D sponsors are inflexible and hence, once funding has been obtained, researchers are unable to incorporate desirable innovations or changes in research design as the project proceeds.	0	7	30	18	33	12	☒	27
5. R&D needs to be re-tooled in order to include a much broader base which would be more responsive to the needs of the ultimate consumers of R&D output.	7	21	43	14	11	3	☒	28
6. Individual researchers reflect little more than financial allegiance to sponsoring agencies.	0	18	22	15	26	18	☒	27

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS

SET FORTH IN THE COVERING MEMORANDUM

PERCENTAGE DISTRIBUTION OF RESPONSES TO ATTITUDE QUESTIONNAIRE

GROUP I: RESPONDENTS AFFILIATED WITH UNIVERSITIES

D. QUESTIONS RELATING TO IMPACT OF RESOURCES

STRONGLY AGREE	1	2	3	4	5	6	STRONGLY DISAGREE	NUMBER OF RESPONDENTS
1. The output of R&D organizations significantly influences American education.	11	17	31	25	17	0		29
2. Effective implementation of R&D output is a pressing need.	50	33	10	3	0	3		30
3. Dissemination is the most overlooked aspect of R&D.	13	29	32	10	16	0		31
4. Most researchers are more interested in refining their research than in seeing project results further on the road to implementation.	11	24	26	18	18	3		28
5. Individual projects and investigators are granted so much autonomy that effective monitoring of the overall impact of R&D is impossible.	0	4	19	37	41	0		27
6. One would be hard pressed to justify the R&D network in terms of actual impact on the educational system.	0	24	20	14	37	6		30
7. The primary focus of R&D should be one of theoretical work as opposed to application.	0	7	11	28	34	20		29
8. The majority of significant educational innovations can be directly linked to specific R&D undertakings.	0	11	11	34	25	20		29

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS

SET FORTH IN THE COVERING MEMORANDUM

(Tab. 2 Page 5 of 5)

PERCENTAGE DISTRIBUTION OF RESPONSES TO ATTITUDE QUESTIONNAIRE

GROUP I: RESPONDENTS AFFILIATED WITH UNIVERSITIES

E. QUESTIONS RELATING TO OVERALL EVALUATION

STRONGLY AGREE	1	2	3	4	5	6	STRONGLY DISAGREE	NUMBER OF RESPONDENTS
1. Continuing Research and Development is crucial to the progress of American Education.	71	23	3	3	0	0		31
2. The recent proliferation of R&D activities is in response to a felt need and is serving that need in a more than satisfactory fashion.	6	27	51	11	6	0		29
3. The majority of R&D projects may be classified as "flash-in-the-pan" operations.	3	3	33	7	33	21		28
4. For decision-making purposes, it is useful to categorize R&D activities in terms of research, development, dissemination, diffusion, and training.	13	52	16	13	3	3		31
5. Due to wide-spread overlap of efforts, the R&D network represents a tremendous waste of resources.	0	12	15	26	40	7		27
6. R&D suffers greatly from a lack of direction.	0	26	36	18	18	3		28
7. In general, educational R&D is overdue for a sweeping renovation.	0	21	30	17	24	8		24
8. R&D efforts are too much directed to problems of today or yesterday, instead of to foreseeable problems of five or ten years from now.	11	25	28	17	17	3		29

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS

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PERCENTAGE DISTRIBUTION OF RESPONSES TO ATTITUDE QUESTIONNAIRE

GROUP II: RESPONDENTS AFFILIATED WITH R&D CENTERS & LABORATORIES

A. QUESTIONS RELATING TO ALLOCATION OF RESOURCES

STRONGLY AGREE	1	2	3	4	5	6	STRONGLY DISAGREE	NUMBER OF RESPONDENTS
1. The ultimate value of specific research proposals is seldom heavily weighted in the process of selection and allocation of support.	5	27	9	22	22	14		23
2. In general, R&D resources are channeled to an elite few (in other words, the rich get richer).	9	36	14	14	22	5		23
3. R&D resources should be more evenly spread within the educational community.	12	4	4	12	43	24		25
4. R&D funding should be primarily a function of a well defined hierarchy of priorities.	13	62	4	13	9	0		24
5. In many cases, R&D support is the matter of "being in the right place at the right time."	13	29	13	9	25	13		24
6. Personal connections play too large a part in the allocation of R&D resources regardless of level.	9	9	16	13	25	29		24
7. Management of resources within R&D appears to follow no identifiable strategy.	5	33	5	15	28	14		22

Note 1: Number of respondents in this group: 26

Note 2: In most cases, individual respondents did not answer all questions. Percentage distributions for each question are based on the actual number of respondents to each question, as shown in the last column above.

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS

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PERCENTAGE DISTRIBUTION OF RESPONSES TO ATTITUDE QUESTIONNAIRE

GROUP II: RESPONDENTS AFFILIATED WITH R&D CENTERS & LABORATORIES

B. QUESTIONS RELATING TO STRUCTURE OF RESOURCES

STRONGLY AGREE	1	2	3	4	5	6	STRONGLY DISAGREE	NUMBER OF RESPONDENTS
1. A major R&D shortcoming is a lack of structure which would insure feedback of results.	26	26	22	5	17	5	☒	23
2. Differentiation of the terms "research" and "development" is simply one of example of the bureaucratic red-tape which strangles the researcher	4	8	8	13	37	29	☒	24
3. R&D sponsors should forcefully encourage close communication among researchers doing related work.	24	28	28	4	12	4	☒	25
4. As a result of the structure of educational R&D a pseudo-researcher has been created whose talent is grantsmanship.	9	22	17	22	9	22	☒	23
5. Within R&D, there appears to be a tendency to "ride an old horse to death" rather than to "seek a new mount".	16	13	13	4	50	4	☒	24
6. The decision-making process within R&D is in the hands of a few very powerful individuals.	13	28	16	12	20	12	☒	25

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS

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PERCENTAGE DISTRIBUTION OF RESPONSES TO ATTITUDE QUESTIONNAIRE

GROUP II: RESPONDENTS AFFILIATED WITH R&D CENTERS & LABORATORIES

C. QUESTIONS RELATING TO RESEARCHERS AND SPONSORS

STRONGLY AGREE	1	2	3	4	5	6	STRONGLY DISAGREE	NUMBER OF RESPONDENTS
1. From the researcher's perspective, present levels of R&D funding are adequate.	0	4	8	4	28	56		25
2. In general, R&D finding agencies (sponsors) are responsive to the needs of the researcher.	5	43	0	43	5	5		22
3. In order to secure R&D support, the researcher must generally resort to trade-offs or labeling of one form or another.	14	31	5	14	27	9		23
4. Most R&D sponsors are inflexible and hence, once funding has been obtained, researchers are unable to incorporate desirable innovations or changes in research design as the project proceeds.	5	5	5	27	37	22		23
5. R&D needs to be re-tooled in order to include a much broader base which would be more responsive to the needs of the ultimate consumers of R&D output.	16	33	16	20	16	0		25
6. Individual researchers reflect little more than financial allegiance to sponsoring agencies.	14	27	5	27	18	9		23

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS

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PERCENTAGE DISTRIBUTION OF RESPONSES TO ATTITUDE QUESTIONNAIRE

GROUP II: RESPONDENTS AFFILIATED WITH R&D CENTERS & LABORATORIES

D. QUESTIONS RELATING TO IMPACT OF RESOURCES

STRONGLY AGREE	1	2	3	4	5	6	STRONGLY DISAGREE	NUMBER OF RESPONDENTS
1. The output of R&D organizations significantly influences American education.	20	24	20	16	8	13		25
2. Effective implementation of R&D output is a pressing need.	56	36	4	0	4	0		25
3. Dissemination is the most overlooked aspect of R&D.	32	20	13	16	16	4		25
4. Most researchers are more interested in refining their research than in seeing project results further on the road to implementation.	32	32	12	8	8	8		25
5. Individual projects and investigators are granted so much autonomy that effective monitoring of the overall impact of R&D is impossible.	9	16	13	20	33	9		24
6. One would be hard pressed to justify the R&D network in terms of actual impact on the educational system.	12	12	15	15	27	19		26
7. The primary focus of R&D should be one of theoretical work as opposed to application.	0	0	0	17	40	43		23
8. The majority of significant educational innovations can be directly linked to specific R&D undertakings.	0	39	14	21	5	21		23

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS SET FORTH IN THE COVERING MEMORANDUM

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PERCENTAGE DISTRIBUTION OF RESPONSES TO ATTITUDE QUESTIONNAIRE

GROUP II: RESPONDENTS AFFILIATED WITH R&D CENTERS & LABORATORIES

E. QUESTIONS RELATING TO OVERALL EVALUATION

STRONGLY AGREE	1	2	3	4	5	6	STRONGLY DISAGREE	NUMBER OF RESPONDENTS
1. Continuing Research and Development is crucial to the progress of American Education.	84	16	0	0	0	0	☒	25
2. The recent proliferation of R&D activities is in response to a felt need and is serving that need in a more than satisfactory fashion.	9	37	24	9	9	13	☒	24
3. The majority of R&D projects may be classified as "flash-in-the-pan" operations.	0	14	9	18	37	22	☒	23
4. For decision-making purposes, it is useful to categorize R&D activities in terms of research, development, dissemination, diffusion, and training.	12	42	19	8	4	15	☒	26
5. Due to wide-spread overlap of efforts, the R&D network represents a tremendous waste of resources.	12	8	0	8	24	47	☒	25
6. R&D suffers greatly from a lack of direction.	13	13	0	26	34	13	☒	23
7. In general, educational R&D is overdue for a sweeping renovation.	13	20	16	13	24	15	☒	25
8. R&D efforts are too much directed to problems of today or yesterday, instead of to foreseeable problems of five or ten years from now.	31	23	4	8	19	15	☒	26

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS

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PERCENTAGE DISTRIBUTION OF RESPONSES TO ATTITUDE QUESTIONNAIRE

GROUP III: RESPONDENTS AFFILIATED WITH GOVERNMENT AGENCIES & FOUNDATIONS (SPONSORS)

A. QUESTIONS RELATING TO ALLOCATION OF RESOURCES

STRONGLY AGREE	1	2	3	4	5	6	STRONGLY DISAGREE	NUMBER OF RESPONDENTS
1. The ultimate value of specific research proposals is seldom heavily weighted in the process of selection and allocation of support.	0	25	25	19	32	0		16
2. In general, R&D resources are channeled to an elite few (in other words, the rich get richer).	11	33	17	22	17	0		18
3. R&D resources should be more evenly spread within the educational community.	12	19	7	24	19	19		16
4. R&D funding should be primarily a function of a well defined hierarchy of priorities.	37	19	12	7	19	7		16
5. In many cases, R&D support is the matter of "being in the right place at the right time."	18	35	30	6	12	0		17
6. Personal connections play too large a part in the allocation of R&D resources regardless of level.	13	26	7	33	20	0		15
7. Management of resources within R&D appears to follow no identifiable strategy.	17	22	28	22	11	0		18

Note 1: Number of respondents in this group: 18

Note 2: In most cases, individual respondents did not answer all questions. Percentage distributions for each question are based on the actual number of respondents to each question, as shown in the last column above.

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS

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PERCENTAGE DISTRIBUTION OF RESPONSES TO ATTITUDE QUESTIONNAIRE

GROUP III: RESPONDENTS AFFILIATED WITH GOVERNMENT AGENCIES & FOUNDATIONS (SPONSORS)

B. QUESTIONS RELATING TO STRUCTURE OF RESOURCES

STRONGLY AGREE	1	2	3	4	5	6	STRONGLY DISAGREE	NUMBER OF RESPONDENTS
1. A major R&D shortcoming is a lack of structure which would insure feedback of results.	44	37	12	0	7	0		16
2. Differentiation of the terms "research" and "development" is simply one of example of the bureaucratic red-tape which strangles the researcher	13	7	13	33	13	20		15
3. R&D sponsors should forcefully encourage close communication among researchers doing related work.	35	23	12	6	18	6		17
4. As a result of the structure of educational R&D a pseudo-researcher has been created whose talent is grantsmanship.	22	36	28	0	14	0		16
5. Within R&D, there appears to be a tendency to "ride an old horse to death" rather than to "seek a new mount".	6	29	35	12	18	0		17
6. The decision-making process within R&D is in the hands of a few very powerful individuals.	13	21	21	19	27	0		13

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS

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PERCENTAGE DISTRIBUTION OF RESPONSES TO ATTITUDE QUESTIONNAIRE

GROUP III: RESPONDENTS AFFILIATED WITH GOVERNMENT AGENCIES & FOUNDATIONS (SPONSORS)

C. QUESTIONS RELATING TO RESEARCHERS AND SPONSORS

STRONGLY AGREE	1	2	3	4	5	6	STRONGLY DISAGREE	NUMBER OF RESPONDENTS
1. From the researcher's perspective, present levels of R&D funding are adequate.	0	7	0	12	19	62		16
2. In general, R&D finding agencies (sponsors) are responsive to the needs of the researcher.	0	31	31	8	15	15		13
3. In order to secure R&D support, the researcher must generally resort to tradeoffs or labeling of one form or another.	8	30	30	15	8	8		13
4. Most R&D sponsors are inflexible and hence, once funding has been obtained, researchers are unable to incorporate desirable innovations or changes in research design as the project proceeds.	13	13	33	7	26	7		15
5. R&D needs to be re-tooled in order to include a much broader base which would be more responsive to the needs of the ultimate consumers of R&D output.	33	39	11	6	11	0		18
6. Individual researchers reflect little more than financial allegiance to sponsoring agencies.	8	15	30	38	8	0		13

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS

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PERCENTAGE DISTRIBUTION OF RESPONSES TO ATTITUDE QUESTIONNAIRE

GROUP III: RESPONDENTS AFFILIATED WITH GOVERNMENT AGENCIES & FOUNDATIONS (SPONSORS)

D. QUESTIONS RELATING TO IMPACT OF RESOURCES

STRONGLY AGREE	1	2	3	4	5	6	STRONGLY DISAGREE	NUMBER OF RESPONDENTS
1. The output of R&D organizations significantly influences American education.	0	20	13	13	46	7	☒	15
2. Effective implementation of R&D output is a pressing need.	71	17	0	6	6	0	☒	18
3. Dissemination is the most overlooked aspect of R&D.	28	39	17	6	11	0	☒	18
4. Most researchers are more interested in refining their research than in seeing project results further on the road to implementation.	26	46	7	13	7	0	☒	15
5. Individual projects and investigators are granted so much autonomy that effective monitoring of the overall impact of R&D is impossible.	7	19	24	7	43	0	☒	15
6. One would be hard pressed to justify the R&D network in terms of actual impact on the educational system.	39	39	6	6	11	0	☒	18
7. The primary focus of R&D should be one of theoretical work as opposed to application.	0	6	0	18	53	23	☒	17
8. The majority of significant educational innovations can be directly linked to specific R&D undertakings.	0	0	28	11	44	17	☒	18

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS

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PERCENTAGE DISTRIBUTION OF RESPONSES TO ATTITUDE QUESTIONNAIRE

GROUP III: RESPONDENTS AFFILIATED WITH GOVERNMENT AGENCIES & FOUNDATIONS (SPONSORS)

E. QUESTIONS RELATING TO OVERALL EVALUATION

STRONGLY AGREE	1	2	3	4	5	6	STRONGLY DISAGREE	NUMBER OF RESPONDENTS
1. Continuing Research and Development is crucial to the progress of American Education.	82	6	6	0	6	0		18
2. The recent proliferation of R&D activities is in response to a felt need and is serving that need in a more than satisfactory fashion.	0	7	37	12	32	12		16
3. The majority of R&D projects may be classified as "flash-in-the-pan" operations.	7	7	46	13	20	7		15
4. For decision-making purposes, it is useful to categorize R&D activities in terms of research, development, dissemination, diffusion, and training.	30	53	0	0	6	12		17
5. Due to wide-spread overlap of efforts, the R&D network represents a tremendous waste of resources.	13	7	39	20	13	7		15
6. R&D suffers greatly from a lack of direction.	17	44	22	6	11	0		18
7. In general, educational R&D is overdue for a sweeping renovation.	33	28	11	17	11	0		18
8. R&D efforts are too much directed to problems of today or yesterday, instead of to foreseeable problems of five or ten years from now.	11	44	33	6	6	0		18

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS

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PERCENTAGE DISTRIBUTION OF RESPONSES TO ATTITUDE QUESTIONNAIRE

TOTAL OF GROUPS I, II & III

A. QUESTIONS RELATING TO ALLOCATION OF RESOURCES

STRONGLY AGREE	1	2	3	4	5	6	STRONGLY DISAGREE	NUMBER OF RESPONDENTS
1. The ultimate value of specific research proposals is seldom heavily weighted in the process of selection and allocation of support.	4	19	17	24	31	5	☒	65
2. In general, R&D resources are channeled to an elite few (in other words, the rich get richer).	9	32	21	19	17	3	☒	70
3. R&D resources should be more evenly spread within the educational community.	8	9	8	20	30	26	☒	69
4. R&D funding should be primarily a function of a well defined hierarchy of priorities.	14	41	16	14	13	3	☒	67
5. In many cases, R&D support is the matter of "being in the right place at the right time."	17	27	25	9	17	5	☒	68
6. Personal connections play too large a part in the allocation of R&D resources regardless of level.	9	15	13	26	24	14	☒	66
7. Management of resources within R&D appears to follow no identifiable strategy.	6	23	23	18	24	6	☒	67

Note 1: Number of respondents in this group: 75

Note 2: In most cases, individual respondents did not answer all questions. Percentage distributions for each question are based on the actual number of respondents to each question, as shown in the last column above.

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS

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PERCENTAGE DISTRIBUTION OF RESPONSES TO ATTITUDE QUESTIONNAIRE

TOTAL OF GROUPS I, II & III

B. QUESTIONS RELATING TO STRUCTURE OF RESOURCES

STRONGLY AGREE	1	2	3	4	5	6	STRONGLY DISAGREE	NUMBER OF RESPONDENTS
1. A major R&D shortcoming is a lack of structure which would insure feedback of results.	26	32	21	6	12	3		67
2. Differentiation of the terms "research" and "development" is simply one of example of the bureaucratic red-tape which strangles the researcher	4	8	12	18	32	26		68
3. R&D sponsors should forcefully encourage close communication among researchers doing related work.	30	27	24	5	9	5		71
4. As a result of the structure of educational R&D a pseudo-researcher has been created whose talent is grantsmanship.	10	28	24	14	15	9		68
5. Within R&D, there appears to be a tendency to "ride an old horse to death" rather than to "seek a new mount".	8	17	22	17	32	4		67
6. The decision-making process within R&D is in the hands of a few very powerful individuals.	8	23	22	14	23	9		64

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS SET FORTH IN THE COVERING MEMORANDUM

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PERCENTAGE DISTRIBUTION OF RESPONSES TO ATTITUDE QUESTIONNAIRE

TOTAL OF GROUPS I, II & III

C. QUESTIONS RELATING TO RESEARCHERS AND SPONSORS

STRONGLY AGREE	1	2	3	4	5	6	STRONGLY DISAGREE	NUMBER OF RESPONDENTS
1. From the researcher's perspective, present levels of R&D funding are adequate.	1	4	4	6	31	54		69
2. In general, R&D finding agencies (sponsors) are responsive to the needs of the researcher.	1	31	19	29	14	6		61
3. In order to secure R&D support, the researcher must generally resort to tradeoffs or labeling of one form or another.	10	33	20	11	20	6		62
4. Most R&D sponsors are inflexible and hence, once funding has been obtained, researchers are unable to incorporate desirable innovations or changes in research design as the project proceeds.	5	8	22	19	33	14		65
5. R&D needs to be re-tooled in order to include a much broader base which would be more responsive to the needs of the ultimate consumers of R&D output.	18	29	25	14	13	1		71
6. Individual researchers reflect little more than financial allegiance to sponsoring agencies.	6	21	18	24	20	11		63

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS

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PERCENTAGE DISTRIBUTION OF RESPONSES TO ATTITUDE QUESTIONNAIRE

TOTAL OF GROUPS I, II & III

D. QUESTIONS RELATING TO IMPACT OF RESOURCES

STRONGLY AGREE	1	2	3	4	5	6	STRONGLY DISAGREE	NUMBER OF RESPONDENTS
1. The output of R&D organizations significantly influences American education.	12	21	23	19	21	5		69
2. Effective implementation of R&D output is a pressing need.	58	30	5	3	3	1		73
3. Dissemination is the most overlooked aspect of R&D.	23	29	21	11	15	1		74
4. Most researchers are more interested in refining their research than in seeing project results further on the road to implementation.	22	32	17	13	12	4		68
5. Individual projects and investigators are granted so much autonomy that effective monitoring of the overall impact of R&D is impossible.	4	12	18	23	39	3		66
6. One would be hard pressed to justify the R&D network in terms of actual impact on the educational system.	13	23	15	12	27	9		74
7. The primary focus of R&D should be one of theoretical work as opposed to application.	0	4	4	22	40	29		69
8. The majority of significant educational innovations can be directly linked to specific R&D undertakings.	0	17	16	25	22	20		70

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS

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PERCENTAGE DISTRIBUTION OF RESPONSES TO ATTITUDE QUESTIONNAIRE

TOTAL OF GROUPS I, II & III

E. QUESTIONS RELATING TO OVERALL EVALUATION

STRONGLY AGREE	1	2	3	4	5	6	STRONGLY DISAGREE	NUMBER OF RESPONDENTS
1. Continuing Research and Development is crucial to the progress of American Education.	78	16	3	1	1	0		74
2. The recent proliferation of R&D activities is in response to a felt need and is serving that need in a more than satisfactory fashion.	5	25	39	10	13	8		69
3. The majority of R&D projects may be classified as "flash-in-the-pan" operations.	3	8	27	12	31	18		66
4. For decision-making purposes, it is useful to categorize R&D activities in terms of research, development, dissemination, diffusion, and training.	16	49	13	8	4	9		74
5. Due to wide-spread overlap of efforts, the R&D network represents a tremendous waste of resources.	8	9	15	18	28	23		67
6. R&D suffers greatly from a lack of direction.	9	26	21	17	22	5		69
7. In general, educational R&D is overdue for a sweeping renovation.	14	23	19	15	21	9		67
8. R&D efforts are too much directed to problems of today or yesterday, instead of to foreseeable problems of five or ten years from now.	17	29	21	11	15	7		63

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS

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PERCENTAGE DISTRIBUTION OF RESPONSES TO ATTITUDE QUESTIONNAIRE

DISTRICT SCHOOL SUPERINTENDENT RESPONDENTS

A. QUESTIONS RELATING TO ALLOCATION OF RESOURCES

STRONGLY AGREE	1	2	3	4	5	6	STRONGLY DISAGREE	NUMBER OF RESPONDENTS
1. The ultimate value of specific research proposals is seldom heavily weighted in the process of selection and allocation of support.								
2. In general, R&D resources are channeled to an elite few (in other words, the rich get richer).	14	30	24	17	10	6		322
3. R&D resources should be more evenly spread within the educational community.								
4. R&D funding should be primarily a function of a well defined hierarchy of priorities.								
5. In many cases, R&D support is the matter of "being in the right place at the right time."								
6. Personal connections play too large a part in the allocation of R&D resources regardless of level.								
7. Management of resources within R&D appears to follow no identifiable strategy.								

Note 1: Number of respondents in this group: 342

Note 2: In most cases, individual respondents did not answer all questions. Percentage distributions for each question are based on the actual number of respondents to each question, as shown in the last column above.

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS

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PERCENTAGE DISTRIBUTION OF RESPONSES TO ATTITUDE QUESTIONNAIRE

DISTRICT SCHOOL SUPERINTENDENT RESPONDENTS

B. QUESTIONS RELATING TO STRUCTURE OF RESOURCES

STRONGLY AGREE	1	2	3	4	5	6	STRONGLY DISAGREE	NUMBER OF RESPONDENTS
1. A major R&D shortcoming is a lack of structure which would insure feedback of results.	24	42	19	11	4	1		323
2. Differentiation of the terms "research" and "development" is simply one of example of the bureaucratic red-tape which strangles the researcher								
3. R&D sponsors should forcefully encourage close communication among researchers doing related work.								
4. As a result of the structure of educational R&D a pseudo-researcher has been created whose talent is grantsmanship.								
5. Within R&D, there appears to be a tendency to "ride an old horse to death" rather than to "seek a new mount".	6	17	31	25	16	5		321
6. The decision-making process within R&D is in the hands of a few very powerful individuals.								

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS

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PERCENTAGE DISTRIBUTION OF RESPONSES TO ATTITUDE QUESTIONNAIRE

DISTRICT SCHOOL SUPERINTENDENT RESPONDENTS

C. QUESTIONS RELATING TO RESEARCHERS AND SPONSORS

STRONGLY AGREE	1	2	3	4	5	6	STRONGLY DISAGREE	NUMBER OF RESPONDENTS
1. From the researcher's perspective, present levels of R&D funding are adequate.							☒	
2. In general, R&D finding agencies (sponsors) are responsive to the needs of the researcher.							☒	
3. In order to secure R&D support, the researcher must generally resort to trade-offs or labeling of one form or another.							☒	
4. Most R&D sponsors are inflexible and hence, once funding has been obtained, researchers are unable to incorporate desirable innovations or changes in research design as the project proceeds.							☒	
5. R&D needs to be re-tooled in order to include a much broader base which would be more responsive to the needs of the ultimate consumers of R&D output.							☒	
6. Individual researchers reflect little more than financial allegiance to sponsoring agencies.							☒	

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS

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PERCENTAGE DISTRIBUTION OF RESPONSES TO ATTITUDE QUESTIONNAIRE

DISTRICT SCHOOL SUPERINTENDENT RESPONDENTS

D. QUESTIONS RELATING TO IMPACT OF RESOURCES

STRONGLY AGREE	1	2	3	4	5	6	STRONGLY DISAGREE	NUMBER OF RESPONDENTS
1. The output of R&D organizations significantly influences American education.	7	15	41	27	8	2		325
2. Effective implementation of R&D output is a pressing need.								
3. Dissemination is the most overlooked aspect of R&D.	29	35	20	10	2	4		325
4. Most researchers are more interested in refining their research than in seeing project results further on the road to implementation.	24	33	24	11	6	2		316
5. Individual projects and investigators are granted so much autonomy that effective monitoring of the overall impact of R&D is impossible.								
6. One would be hard pressed to justify the R&D network in terms of actual impact on the educational system.	10	24	26	17	16	7		323
7. The primary focus of R&D should be one of theoretical work as opposed to application.	2	2	7	13	28	49		325
8. The majority of significant educational innovations can be directly linked to specific R&D undertakings.	7	19	27	21	17	8		322

PROPER EVALUATION OF THESE TABLES REQUIRES REFERENCE TO THE QUALIFICATIONS

SET FORTH IN THE COVERING MEMORANDUM

(Tab. 6 Page 5 of 5)

PERCENTAGE DISTRIBUTION OF RESPONSES TO ATTITUDE QUESTIONNAIRE

DISTRICT SCHOOL SUPERINTENDENT RESPONDENTS

E. QUESTIONS RELATING TO OVERALL EVALUATION

STRONGLY AGREE	1	2	3	4	5	6	STRONGLY DISAGREE	NUMBER OF RESPONDENTS
1. Continuing Research and Development is crucial to the progress of American Education.							☒	
2. The recent proliferation of R&D activities is in response to a felt need and is serving that need in a more than satisfactory fashion.							☒	
3. The majority of R&D projects may be classified as "flash-in-the-pan" operations.							☒	
4. For decision-making purposes, it is useful to categorize R&D activities in terms of research, development, dissemination, diffusion, and training.							☒	
5. Due to wide-spread overlap of efforts, the R&D network represents a tremendous waste of resources.							☒	
6. R&D suffers greatly from a lack of direction.							☒	
7. In general, educational R&D is overdue for a sweeping renovation.							☒	
8. R&D efforts are too much directed to problems of today or yesterday, instead of to foreseeable problems of five or ten years from now.	7	24	29	18	18	4	☒	321

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APPENDIX D

Research and Development Centers App D-1

The Educational Policy Research Centers App D-5

The Regional Educational Laboratories App D-7

RESEARCH AND DEVELOPMENT CENTERS

The Research and Development Centers Program was established in 1963 under the Cooperative Research Act prior to the passage of the Elementary and Secondary Education Act of 1965 and before Regional Educational Laboratories were set up. The center concept is to bring together interdisciplinary talent and resources to focus on a significant educational problem and to then design and conduct interrelated programs of basic and applied research and development that will move toward solution of such problems in a systematic way. Projects are not chosen on the basis of whether or not they can be classified within the general focus of the center, but by how individual projects relate to, or reinforce, each other in achieving overall objectives of the center. Promising leads from one project can be followed up immediately in another project.

All of the centers are university-based. The first two centers, Pittsburgh and Oregon, were started in the spring of 1964. Wisconsin followed in the fall. In the summer of 1965, Berkeley, Texas, Georgia, and Stanford began operation. The University of California at Los Angeles and John Hopkins became members in 1966. Two additional centers were funded under the Vocational Education Act of 1963 -- Ohio State in 1966 and North Carolina State in 1967. The most recent addition is the National Laboratory on Early Childhood of Urbana, Illinois.

A listing of the centers follows, with a brief description of each center's focus.

1. Center for the Advanced Study of Educational Administration, University of Oregon

   Through increased understanding of the social context in which educational institutions operate, the Center hopes to bring about improved practices in educational administration and organization. Four major program areas have developed: innovation and organizational structure; educational administration and the normative and value structures of American Society; career processes of educational personnel, and the allocation of resources in higher education.

2. Center for Research and Development in Higher Education, University of California, Berkeley

   The Center has designed research and development activities to assist individuals and institutions responsible for higher education "to improve the quality, efficiency, and availability of education beyond the high school." A dissemination journal, The Research Reporter, is published quarterly.

3. Center for Research, Development, and Training in Occupational Education, North Carolina State University

   One of two R&D centers established under the Vocational Education Act of 1963, the Center is inter- and multi-disciplinary in scope and organization. Nine departments of the University are contributing their resources and research potential to the Center. The total program is divided into five areas which include the research program, the evaluation program, the research development program, the research training program, and the services and conferences program.

4. Center for Research and Leadership Development in Vocational and Technical Education, Ohio State University

   This Center, also founded under the Vocational Education Act of 1963, was set up to stimulate and encourage national research in vocational and technical education. Procedures encompass basic and applied research, field testing, dissemination and demonstration activities, and leadership development of state personnel. The ERIC Clearinghouse on Vocational and Technical Education also is a part of this Center.

5. Center for the Study of Evaluation of Instructional Programs University of California, Los Angeles

   The Center aims to improve the theory and practice of evaluation of instructional programs in school settings. Studies include evaluation of classroom instruction, the study of contextual variables (relationships between student characteristics and instructional procedures), study of criterion variables (development of measures of individual student's achievement and organizational criteria), and the evaluation of elementary school and higher education programs.

6. Center for the Study of Social Organization of Schools and the Learning Process, John Hopkins University

The Center's major program interests focus on the social and administrative organization of the school and community as related to the learning process of diverse groups of students. Research and development efforts include the development of simulation games and studies of the influence of games on student learning, study of education and social change for Negro Americans (including a further analysis of the data in the national study of "Equality of Educational Opportunity," or the Coleman Report), studies of modification in the social organization of schools and classrooms which will enhance the acquisition of cognitive skills in social disadvantaged children.

7. Learning Research and Development Center, University of Pittsburgh

The Center's major program interest is the interaction between learning research in the behavioral sciences and instructional practices in the schools. The Center is carrying out basic learning studies, conducting experimental development of computer-assisted instruction, doing field research in community schools, and conducting experimental school development in three areas: Individually Prescribed Instruction (IPI), responsive environment projects, and a Primary Education Project (PEP). The Center has been quite successful in obtaining multisource financing.

8. National Laboratory on Early Childhood Education University of Illinois

The laboratory is designed to provide national focus and leadership in the area of early childhood education by conducting reserach in areas which need attention and dramatizing practices which are ready for implementation. The program includes a network of small research and development centers, a National Coordination Center, and an ERIC Clearinghouse on Early Childhood Education.

9. Research and Development Center in Educational Stimulation, University of Georgia

The Center seeks greater achievement for children 3-12 years-of-age through early and continuous intellectual stimulation. Research, development and evaluation of instructional systems is being carried out at the preprimary, primary, and intermediate levels for a cross section of children and for disadvantaged children. The Center is studying the influence of cultural, social, emotional and organizational variables which affect educational stimulation.

10. Research and Development Center in Teacher Education University of Texas

Empirically tested experiments conducted by the Center seek to determine which processes in teacher education will produce teachers who are most effective in inducing learning in all types of children. Projects include design studies to measure pupil gain, self-contained classroom studies, and studies of individualized instruction through team teaching.

11. Center for Research and Development in Teaching Stanford University

The Stanford Center for Research and Development in Teaching is concerned with the theory and practice of teaching. Under investigation are the effects of the teacher's acts on the pupil, modifications in teacher training, and the effects of administrative practices on the teacher. There are three major programs. The program in the Behavioral Domain is a study of the effect of teacher behavior on pupils; the program in the Personological Domain is a study of the determiners and consequences of teacher traits and characteristics; and the program in the Institutional Domain is a study of the conditions which surround teachers. Several teacher training films have been produced on such topics as "Micro-Teaching," "Technical Skills in Teaching," and "Role Playing."

12. Research and Development Center for Cognitive Learning, University of Wisconsin

The Center's major interest is to secure efficient learning of children and youth in the cognitive domain through refinement of learning theory, improvement of educational technology, development of exemplary instructional programs, and the invention and refinement of models for conducting research in school settings. Instructional programs in deopment include a television course, "Patterns in Arithmetic"; an English language and composition course; a program in elementary science; and an individualized reading program.

THE EDUCATIONAL POLICY RESEARCH CENTERS

In June, 1967, the U.S. Office of Education funded two centers to conduct a continuing examination of future educational needs and resources. Located at Stanford and Syracuse universities, the centers are concerned with four major themes:

What demand will society make on schools in the future and how might the schools begin preparing to meet them now?

What might curriculum objectives be in the future and what are their implications for schools today?

What technologies will be available to schools in the future and what are their implications for schools today?

Each center has a permanent staff and a pool of part-time specialists (educations, physical and social scientists, philosophers, engineers, city planners, scholars, architects, artists, writers, businessmen and physicians).

1. Stanford Educational Policy Research Center

The Center will study alternative states of society in the year 1990, based on identification of the most prevalent individual needs and concerns. Alternative educational programs designed to meet the various needs will then be identified. Other studies at the Center will focus on such matters as a policy analysis of urban ghetto education and new methods of social forecasting.

2. Syracuse Educational Policy Research Center

The Center will develop scenarios or "future pictures" which will depict alternative possibilities for society in the years 1980 to 2000. They will be based on projections of such diverse factors as economic growth, technological development, family structure, population distribution, and changing human values. The Center will then study the educational implications of these scenarios in conjunction with educators throughout the country.

THE REGIONAL EDUCATIONAL LABORATORIES

Title IV of the Elementary and Secondary Education Act of 1965 authorized the U.S. Office of Education to support a network of nonprofit educational laboratories. The purpose of the laboratories is to narrow the gap between educational research and educational practice. To accomplish this, 20 laboratories were funded. However, a shortage of funds in FY 1969 made it necessary to phase out five of the laboratories.

The work of the laboratory staff is to offer tested alternatives to existing educational practice. Where it has been found that appropriate curriculum materials do not exist, the laboratories have taken on the task of curriculum development and field testing. All activities are carried out with the cooperation of local institutions -- state departments of education, public and private schools, colleges and universities, and other organizations which are concerned with the educational problems of their region.

Each laboratory is an independent nonprofit corporation with its own governing board and management capable of making decisions regarding specific program objectives; attracting the resources (personnel, funds, and facilities) necessary to realize the objectives, and directing the operations by which the objectives will be achieved. It should be pointed out that any laboratory is free to seek additional financial support from sources other than Title IV of E.S.E.A. Some of them have been quite successful in acquiring multiple sources of financing.

The special-emphasis areas of each of the laboratories are described on the following pages:

1. Center for Urban Education (CUE)

   CUE is concerned primarily with the improvement of educational practice in metropolitan areas. Four staff committees direct the work of the Center: Curriculum, Community Relations, Mass Media, and Educational Personnel. The Curriculum Committee is testing a number of strategies which will ensure literacy in the early grades, including multiculture-based programs which will take into account the acquired vocabulary of urban children. The Community Relations Committee is assisting the implementation of integration programs in urban communities, and the Educational Personnel Committee is seeking ways to improve morale and effectiveness of new elementary teachers in urban ghetto schools. The Mass Media

Committee is assessing the affect of mass media, such as television, on the development of school-age children. The CUE staff has published a number of monographs and puts out a bimonthly periodical, The Urban Review. CUE is located in New York City.

2. Central Midwestern Regional Educational Laboratory (CEMREL)

   CEMREL has six major program interests which will have national as well as regional application: (1) development of a comprehensive mathematics curriculum for the general student population in grades K-12; (2) development of a curriculum in aesthetics education for the general student population in grades K-12; (3) development, application, and evaluation of the results of an implementation model for exemplary social studies curricula; (4) design of teaching strategies, with related materials, particularly appropriate to special student populations; (5) demonstration of a program of computer-assisted instruction in arithmetic in a rural area and evaluation of its impact on student achievement and social interaction; and (6) development of a system of computer applications for administrative purposes to function as a utility for the region's educators.

3. Eastern Regional Institute for Education (ERIE)

   The ERIE staff is carrying out three projects designed to test prototypes of three different instructional systems. One project, partially financed by the National Science Foundation, employs the "Science - A Process Approach" curriculum (developed by the American Association for the Advancement of Science) to stress teaching of learning skills as opposed to acquisition of facts alone. Another project will demonstrate a system of individualized instruction which will incorporate as one element the Individually Prescribed Instruction system developed by the Pittsburgh Learning Research and Development Center. A third project is to design a system for installing and monitoring a new curriculum in schools of diverse characteristics. Again, the new "Science - A Process Approach" curriculum is employed. An "engineering" manual is planned which will show other schools how to adopt the new curriculum successfully. The laboratory is located in Syracuse, New York

4. Education Development Center (EDC)

The Education Development Center was created from a merger in January 1967 of Education Services, Inc., a curriculum-development corporation, and the Institute for Educational Innovation which had been established as the New England regional educational laboratory. The laboratory staff is working with schools in four communities -- the Cardozo district of Washington, D.C.; Bridgeport, Connecticut; Boston, Massachusetts, and Brunswick-Rockland, Maine -- to improve the quality of their educational programs. Initially the laboratory is creating a resource team and resource center in each of the four communities. The centers will be used to teach teachers, administrators, parents, and community leaders about new curriculum materials and how the new materials might be used in educational programs in their communities. Only a small part of EDC's financing comes from USOE.

5. The Far West Laboratory for Educational Research and Development (FWLERD)

A major effort of the FWLERD staff is the development of self-contained units for inservice teachers (elementary and secondary) in a variety of instructional skills. Based on the Stanford "microteaching" concept, a typical unit would be designed to change the "questioning techniques" of an elementary teacher, or the ability to develop language skills in Mexican-American or Afro-American children. FWLERD works very closely with the Stanford R&D Center (sponsored by USOE).

6. Regional Educational Laboratory for the Carolinas and Virginia (RELCV)

RELCV is the only regional laboratory which has a focus on higher education as well as projects at the elementary and secondary level. Initially the laboratory is working with 20 colleges and universities to upgrade their educational practices. Each institution has assigned a personal assistant to work with the laboratory and within the institution to identify and plan for needed changes. Among long-range goals is the development and dissemination of model computerized systems for institutional research and decision making.

At the elementary and secondary level, the laboratory is introducing the Individually Prescribed Instruction program (developed by the Pittsburgh Learning

Research and Development Center) in selected schools within the region. Plans are underway for an adaptation of the Samoan experiment with educational television in teaching English as a second language to children in a rural South Carolina county who speak a nonstandard English dialect. The headquarters for RELCV are in Raleigh, North Carolina.

7. Research for Better Schools, Inc. (RBS)

RBS's major problem is the field testing, monitoring, and further development of the Individually Prescribed Instruction (IPI) system developed by the Pittsburgh Learning Research and Development Center. Teacher-training programs in the use of the IPI system are being carried out. The concept of "research-implementation teams" is being experimented with in the Delaware State Department of Education and the Newark and Philadelphia public schools. The close association of RBS with LRDC is a prime example of a Regional Laboratory working on the development and implementation of a major R&D Center program.

8. Mid-Continent Regional Education Laboratory (McREL)

Self-directed learning is the main focus of the McREL program. Studies are underway to identify the student behaviors associated with self-directed learning and to define teacher behaviors which will elicit self-directed learning in students. The schools of education in the Universities of Nebraska and Missouri are cooperating with the laboratory in these studies, as well as the Kansas City public schools.

9. Northwest Regional Educational Laboratory (NWREL)

The NWREL program concentrates on the special educational needs caused by the region's inner-city problems, rural isolation, and poverty. To speed the adoption of new teaching strategies, "instructional leaders" are being trained to carry out inservice programs for professionals in their own and nearby school districts. Special instructional materials are being developed to meet deficiencies in rural schools, and to meet the needs of Indian, Alaska-native, and inner-city children. A computer center is being designed to demonstrate applications of computer-assisted instruction, instructional management, and administrative management of schools.

10. South Central Regional Educational Laboratory Corporation (SCREL)

The SCREL program concentration is on early childhood compensatory education for three populations: the nonreservation Indian, Delta Negro, and white Ozarkian. Initial emphasis is on improvement of basic skills and self-concept. To compensate for the absence of kindergartens throughout the region, laboratory and school personnel are conducting Saturday sessions. A variety of materials and strategies are employed, including programmed instruction to teach English as a second language, and computer-assisted instruction in arithmetic.

11. Southeastern Educational Laboratory (SEL)

SEL aims to improve the education offered disadvantaged children of its three-state region. A 24-school project is experimenting with new ways of instructing these students. An inservice teacher education program focuses on teacher-student and teacher-teacher interpersonal relationships. Video and audio recordings are used to analyze the communication-skills problems of the disadvantaged. Supplementary projects include the establishment of a bilingual (Spanish-English) materials center in Miami and a migrant education center in Tampa.

12. Southwest Educational Development Laboratory (SWEDL)

SWEDL's region has three predominant subcultures with special educational needs: the Negro American, the French Acadian, and the Mexican American. Raising achievement and aspiration levels of these pupils is a major objective. Bilingual curriculum materials are being used, and parent involvement is fostered. In addition, applications of computer technology, both for instruction and for management, are in use.

13. Southwest Regional Laboratory for Educational Research and Development (SWRL)

The initial SWRL program has four primary areas: communication skills for grades K-4; generalized problem-solving skills for grades K-4; computer-managed instruction in reading, reading readiness, and mathematics at the first-grade level, and a computer-managed administrative planning system to assist in administrative decision-making (now restricted to administrative budget planning for personnel costs). Both computer programs are in cooperation with the System Development Corporation in Santa Monica, California.

14. Southwestern Cooperative Educational Laboratory (SWCEL)

The SWCEL program objective is to develop an improved first-year school experience in the language arts with initial emphasis on oral language for Mexican-American and Indian children.

15. Upper Midwest Regional Educational Laboratory (UMREL)

The UMREL program is focused on teacher competency. Both preservice and inservice teacher-education activities are underway. Some 88 teacher training institutions in the region are involved in a conference series. A theoretical model for an entire teacher-preparation program is one of the envisioned products.